App. F. IX-4

193 . Precis

(Seri)

File No. 1-28

Serial Nos. 8-10, 11, 14, 15, 18-23

Previous References
Seri 59-27 (1-3)

Later References

General and Revenue Secretariat.

Serial Nos. ~~Present~~ 12

Part B for July 1937

SUBJECT

Report of work done by the Assistant Superintendent of Sericulture, Mysore, During the Deputation on the Continent, During the year 1928-29

27/7/37

9

raphic Address : "INDUSCOM."

reply please refer to
D4-2643/27-28.
~~Encl: 2.~~ with 1 Sketch

GOVERNMENT OF MYSORE.
DEPARTMENT OF INDUSTRIES AND COMMERCE.

①

OFFICE OF THE DIRECTOR,
Dated Bangalore, the ~~17th~~ 21st Jan. 1929

C. RANGANATHA RAO SAHIB, Esq., B.A., B.L.,
Director of Industries and Commerce in Mysore,
Bangalore (India).

22 JAN. 1929

No 4427

GEN. & REV. SECRETARIAT
5986
24 JAN 29
DEVELOPMENT BRANCH.

N. Rama Rao, Esq., B.A., B.L.,
Secretary to Government, Development Depts.,
BANGALORE.

Seri 1-28-8

With reference to G.O. No. D1471-2/Seri. 1-28-6 dated 4th August 1928, sanctioning the deputation of Mr. V.M. Appadorai Mudaliar, to Turin in Italy, I have the honour to submit herewith for the information of Government copy of a further report of work done by Mr. Appadorai Mudaliar in Milan.

Subd

NR
23/1/29

1st Member

I have the honour to be,
Sir,
Your most obedient servant,
C. Ranganatha Rao Sahib
DIRECTOR.

Cw. 23/1

If there are any points in these reports on wh. we shd give information to Mr A ~~advise~~ the Dir may report on them. ~~We must get Mr A to~~

We must make Mr A's visit as useful as possible

Cw. 30/1

[illegible] 26.1.29

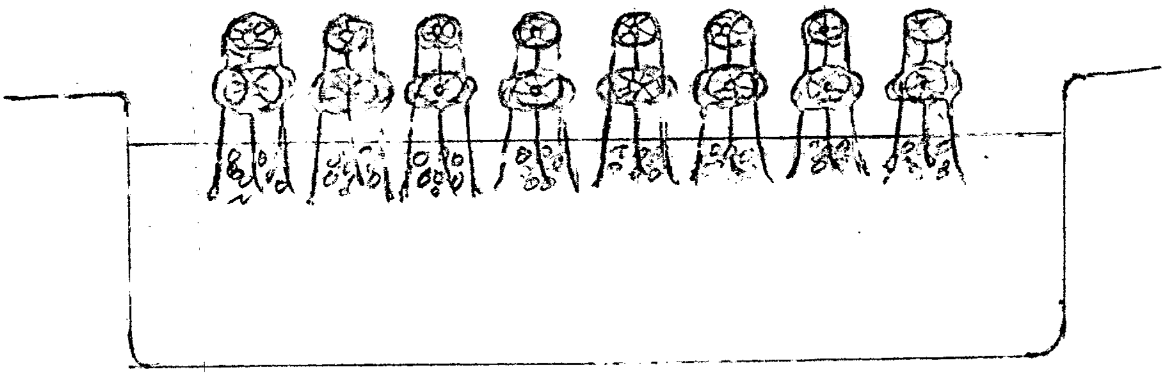
29.1.29

In
No..

2

FROM

TO



SIR.

Purge Bave.

he

1

ksv.

Letter Dated Milan 22nd November 1928 from Mr. V.M. Appadurai Mudaliar to the Director of Industries and Commerce in Mysore, B'lore.

-----------0-----------

I beg to acknowledge receipt of your kind D.O. No.D4-2643/27-28 Camp Mysore dated 27th October 1928 for having addressed Government in regard to the extension of my tour to enable me to visit France Switzerland and Germany, and also for the grant of Rs.2000/- required to enable me to complete my tour programme as outlined in my letter dated 22nd September 1928. This encouraging D.O. has certainly put in more spirit in me , and I hope to return to India with more information with a view to develop our Industries.

I am also in receipt of the following cablegrams sent to me from time to time.

1) 27-10-28 "Appadorai Care Miraco Milano: Government addressed regarding extension deputation. Shall intimate orders are passed. Induscom."

2) 15-11-28 " Appadurai Care Miraco Milano: Government approved extension your deputation for two months. Have also sanctioned additional grant rupees two thousand writing. Induscom."

3) 20-11-28 "Appadoria Care Miraco Milano: Comptroller requested to instruct Coutts to cable remittance. Induscom".

I also beg to confirm the following cablegrams sent by me from Milan.

1) 22-10-28 "Induscom Bangalore: No work till December Italy Cable orders Funds care Miraco Milano to visit Gerfraswitzbel my letter 22 September. Appadorai."

2) 9-11-28 "Induscom Bangalore: Early orders earnestly requested- Appadorai."

3) 19-11-28 "Induscom Bangalore: No Funds to proceed further cable instructions Coutts London to advance me at Milan sanctioned grant to complete tour in time. Appadorai."

As regards scisulific appliances required for testing our raw silk, I have already addressed the Superintendent of Sericulture together with an estimate received from the Director of the Conditioning House Milan. These appliances are in my opinion ~~are~~ very essential for our proposed conditioning House in order to have proper control in regard to the quality of silk reeled in Domestic Basins and point out to the proprietors of such Reeling establishments the defects in the silk reeled.

The estimate includes also the cost of a conditioning oven to ascertain the percentage of moisture in raw silk "Tavella Nera" is another new appliance to examine cleanness and uniformity in silk. This appliance will be very useful for us to point out to our reelers as to how they spoil silk.

In regard to scientific appliances required for general sericulture the following are someof the appliances. I had seen both at the Exhibition and at other firms in Milan

a) Spelatriche: Machine for removing floss from cocoons, costs about 800 Liras. This machine may not be useful for our cocoons (Mysore We may make use of this for our Hybrid cocoons if they are good.

b) Pisatriche: Machine for crushing moths 10 or 20 at a time worked by Eoectric power. This machine will be more useful for our grainages, and can save much time in crushing Moths one by one. I have not as yet heard the cost of this machine. I will intimate, as soon as I hear from the manufacturers.

c) Gincolin Electrico: This machine is for separating Male and Female cocoons, can be worked by electricity. Power required is 1/8th H.P. Costs about 3000 Liras, production 3000 cocoons per hour. It is no doubt an efficient machine for univoltime Races, and the results are very accurate. We may make use of this machine even for Mysore cocoons, but the results may not be very accurate, perhaps with advantage we can use this for our Hybrid cocoons, and later on design one suitable for our cocoons.

d) Automatic Paper cell closing machine: This machine automatically closes the cells after the moths are isolated in cells for laying eggs at the rate of 3600 cells per hour. Costs about 5000 Liras. This is certainly useful in Grainages where univoltime eggs are prepared and I do not think, this machine will serve any sueful purpose in our grainages.

Recently I had an interview with the Commissioner to promote British Industries in Italy, and he was kind enough to give me a letter of introduction to one of the leading Button Factories in Italy. I also learn from him, that as far as he knows that there are no separate Trade organisations in Italy from whom we can get all information, and that he that he would be glad to furnish any information that we may require from time to time. I also paid a visit to Battaglio's Factory at Luine. Mr. Battaglia is now very keen, and anxious to supply all our requirements. He is now manufacturing Basins with 10 ends to reel finer deniers, Basins to reel Double cocoons, twisting and silk cleaning machines. I have also received estimates from him for a Twisting Factory (192 spindles) and other machines manufactured in his Factory. In this connection I like to discuss with you in person, before I say anything in definite, In the meantime, I will also arrange to get estimates for Similar machines from Messrs. Bertland Fils, Lyons to compare prices. I am glad to bring to your kind notice, that I have already purchased many useful books on silk worm Rearing, Reeling, Twisting etc., and I hope to purchase some more books on silk waste and wool spinning, and other Home Industries, when I go to Switzerland. You will also be glad to learn, that Kashmir Government, have also deputed two probationers to Italy, for sericultural training, and they are now working in the Sericultural Institute at Padova. I learn that their deputation is for 3 years.

With kind and respectful regards.

----------- ----
"Copy"

A.K. Ramiengar

ksv.

For Director.

Letter dated Lyon dated 2nd December 1928 from Mr. V.M. Appadorai Mudaliar to the Director of Industries and Commerce in Mysore.

I beg to confirm my Cablegram dated 27th November 1928 as follows:

> "Induscom, Bangalore: No remittance even to-day kindly cable Coutts immediately othervise impossible complete tour in time"
> "Appadorai".

I also beg to acknowledge the receipt of your kind cablegram dated 28th November 1928 received by me, the same evening, reading as hereunder:

> "Appadorai Care Miraco Milano: Comptroller states Coutts instructed by cable in Twentisecond. Induscom"

I also received along with your cable, Messrs. Coutts & Co.,'s letter 26th November 1928 informing me that they have requested Credits Italiano, Milan, to advance me equivalent amount in Italian money for Rs.2,150/-. On the 29th, I received the sanctioned grant from Credits Italiano, and left Milan on the 30th morning, for Lyon, and reached this place on the same night at 10-30 pm.

Whole of yesterday I was busy in meeting the British Consul to whom, I had a letter of introduction from His Majesty's Trade Commissioner, Bombay, Messrs. Chabrieres Morel & Co., Messrs. Bertrand Fils.

The British Consul, gave me to understand, that Lyon is more known for its raw silk trade, Silk Weaving, and Gold Thread Manufacture, besides these in his opinion he thinks, that Lyon is not particularly noted, for any other Industries ~~in~~ in which would be of any use to me, and was kind enough to give me some addresses of firms who deal in Textile Machines.

Through Messrs. Bertrand Fils, I hope to pay visits, to some Weaving estsblishments, Filatures, and if possible one of the Gold Thread Factories.

My talk with, one of the partners Mr. Morel, of Messrs. Chabriers Morel and Co., Lyon. He is even now, very anxious to represent us in France, for the sale of our silk. Any how, I have not

not given him disappointing hopes, and assured him, that we would be in a position to consider the question, when the rate of exchange is stabilized, and better prices are assured. Mr, Morel, had also agreed to translate into English, the accounts sent by his firm in French, on receipt of copies of accounts, sent by them till now. I therefore request you to kindly instruct the Superintendent of Sericulture to send copies of accounts direct, to Messrs. Chabriers Morel & Co., for translation.

At Bertland Fils: Here I met both Messrs. Bertland and ~~Charlema,~~ Charleux the French Mechanic who fitted up our Basins at Mysore; and requested them to arrange for me to visit filatures, Silk weaving Establishments and Gold Thread Factories. They have promised to arrange for the first two and as regards Gold Thread Factory they doubt very much. I have also requested them to give me an idea of the cost of a Twisting Factory (with 192 spindles) and Estimates for ther scientific appliances. In anticipation of your kind approval, I have also placed an order, with this firm for some important spare Parts badly needed for our Filature, such as Brass pulley casings, glass guides. "Purge Bave" is one of the latest French Inventions, two cirular Discs, one over the other are fitted up in a frame just below the ~~gette boats,~~ petite bouts in the reeling basin. The cocoons fed are individually passed through ⊗ "Purge Bave". The function of this is to clear out silk and all the floss is removed during the process of reeling and clean silk is obtained in reeling. Some Filature owners do appreciate this and some think, by the use of this the output is not very encouraging. I am not now in a position to say, as to how this additional ornament to our Basin, could prove with our cocoons, any how, nothing like trial, and so I had requested Messrs. Bertland Fils, also to supply us, with one set of purge bave for one Basin, If the results are encouraging we can even prepare, ~~there~~ there in Mysore for all our Basins.

⊗. Sketch Vide separate Sheet enclosed

The cost of the spare parts ordered by me is for our Filature use, and this item of expenditure has to be met out of the Filature funds. The total cost including "Purge Bave" may not exceed Rs.200/-. I also requested the firm, to send these parts, to the Superintendent of Sericulture with a Bill of cost for adjustment.

I hope to have work in this place, for another two days and I also intend running up for a day to Montpillar to see the Silk Institute and also to meet Prof. Paillot, D.Sc., who is now engaged in research work in silk worm diseases grassarie and flueberic and then proceed to Paris.

I will decide after going to Berlin the places that I have to visit in Germany and I would be in a position to address you again from Switzerland as to whem I would be able to return to India. I request you to kindly instruct Messrs. Thomas Cook & Son, Bombay to arrange for my passage on any day during the second week of January 1929. I left all the heavy luggages includihg Literature and other collections at Milan, and I think, Genova, would be the nearest port for me from Milan. If this is not possible the other nearest Post is Venice.

I hope to meet Mr. Mari again, after completing my work in these places. He has kindly promised to give pure laces races ? of Italian silk worm eggs, Mulberry seeds etc., on my way back to India and to obtain results of tests conducted with our silk through him.

With kind and respectful regards.

"Copy"

A.K. Ramiengar

ksv. for Director.

Dup

Appendix F G-1

SUBJECT.................................... 7

Section Sani

File No. 1-28

Serial No. 9

No. D 8000.

Diary No. of letter replied to..............................

General and Revenue Secretariat

( )

the 192

To

The Dir. of I.F.

Date of issue 5/2/29

Signed by Mr. C. E. Normand

Sir,

With reference to your letter no. D_4-2643-27, 21st January 1929 submitting a copy of the report of work done by Mr. V. M. A. Sundaram in Malaria, I am directed to request you to be so good as to ~~report~~ state if there are any points in Mr. A. Sundaram's report on which he ~~[illegible]~~ should be given instructions, ~~but~~ so that

List of enclosures..............................

Copied by..............................

Examined by..............................

over

8

his ~~A-Mandalawi's~~ time ~~visit~~ may ~~must~~ be made as useful to Govt as possible

I concur ?.

C.W.
2.2.29

For W.Lees

K.C. 1.2.29.

TELEGRAPHIC ADDRESS :— " INDUSCOM. "

In reply please refer to
No. D4-2643/27-28

GOVERNMENT OF MYSORE.

DEPARTMENT OF INDUSTRIES AND COMMERCE.

OFFICE OF THE DIRECTOR,

Dated, Bangalore, ~~13th February~~ 1929.
14 FEB. 1929

14 2 29
Cen 15/2

FROM

C. RANGANATHA RAO SAHIB, ESQ., B.A., B.L.,
Director of Industries and Commerce in Mysore,
(Bangalore, India.)

GEN. & REV. SECRE
6784
[illegible] FEB. 1929
DEVELOPMENT

To

N. Rama Rao, Esq., B.A., B.L.,
Secretary to the Government of Mysore,
Developments Department, BANGALORE.

SIR,

With reference to your letter No. D.8000/Seri 1-28-9 dated 5-2-1929, I have the honour to state that Mr. V. M. Apadhorai Mudaliar, Assistant Superintendent of Sericulture on deputation, has since returned to Bangalore and reported himself for duty on 7-2-1929, fore-noon.

He has been asked to submit a final report of his tour before the end of this month.

I have the honour to be,
Sir,
Your most obedient servant,

Ranganatha Rao
~~for~~ Director.
Absent from Head quarters
on tour.
Br.

Sub lr for perusal
16-15/2/29.

Secy

Cen
18.2.29

15/2 AKM.

8 3 29
Cen 8/3

Seri A/

R.

10 5986

General and Revenue Secretariat	Seri File No. 1	App. F. III–2] of 1928.

W. 5988

Serial No.

Submitted with a draft as ordered on the p.u.d. Mr. Appadurai Mudr was deputed for a period of about four months and it is perhaps time that he returns to India.

Subd. 9.2.29

Issue
Cen
2.2.29

9 Letter no. D.8000 to the Dir. of S.S. asking him to report if there are any points in Mr. A. Mudaliar's report on which he should be given instructions.

GEN. & REV. SECRETARIAT
12 FEB. 1929
DEVELOPMENT BRANCH.

Letter No. D4–2643/27-28 of 14.2.29 stating that Mr. V. M. A. Mudaliar, Asst. Supdt. of Sericulture has since returned to Bangalore & reported himself for duty on the forenoon of 7.2.29 and that he has been asked to submit his final report of his tour before the end of Feby 29. –

Tabled: The report promised in the 2nd para of the letter under reference has not been received. A (draft letter of a) reminder is put up for approval

12/3.

Issue
12/3

Issued
no. D.9313
14.3.29

GEN. & REV. SECRETARIAT
MAR. 1929
DEVELOPMENT BRANCH

NOTE – Contn. sheet

Appendix F G—1

11

SUBJECT.......

Section Seci

File No. 1 - 28

Serial No. R.

Diary No. of letter replied to..............

No. D: 9363

General and Revenue Secretariat

(   )

the   192

To

The Director of Ito.

Date of issue 14/8/29

Dear Sir,

I am desired to invite reference to your letter no: D_4 - 2643/27-28 dated the 18th Feby 29, promising a final report ~~of~~ regarding M.R.Ry. V. M. Apadorai Mudaliar's tour in Italy. May I know ~~and to request you to be good~~ ~~as to state~~ when the same may be expected here? ~~to be received in this office~~

Signed by Mr C. E. Noronha

~~I have etc.~~

Yours &c

J.D.

12/3

For Secy to Govt

Devt. Depts.

List of enclosures..............

Copied by..............

Examined by..............

S. 12/3.

WD 0399—GPB—20,000—18-9-28

Seri

TELEGRAPHIC ADDRESS :— " INDUSCOM. "

In reply please refer to
No. D4-2643/27-28.

GOVERNMENT OF MYSORE.

DEPARTMENT OF INDUSTRIES AND COMMERCE.

REV. SECRETARIAT
21 MAR. 1929
DEVELOPMENT BRANCH

OFFICE OF THE DIRECTOR.

En once

Dated, Bangalore, 19th March 1929.

7954

FROM 20 3 29

C. RANGANATHA RAO SAHIB, ESQ., B.A., B.L.,
Director of Industries and Commerce in Mysore,
(Bangalore, India.)

21/3

TO

Seri 1-28-10

N. Rama Rao, Esq., B.A., B.L.,
Secretary to the Government of Mysore,
Development Departments, BANGALORE.

SIR,

In continuation of my letter No.D4-2643/27-28, dated 13th February 1929, I have the honour to submit herewith for the information of Government copy of report of Mr. V.M. Appadhorai Modaliar's recent tour in Europe. I request that 200 copies of the report may be kindly printed in the Government Press, Bangalore, as was done in the case of his report of tour in Northern India last year.

Seri. 59-27 (1-3).

W

I will submit my observations on the report later on.

I have the honour to be,
Sir,
Your most obedient Servant,

C Ranganatha Rao Sahib
Director.

Sent for perusal -

The report of work done by Mr. Appadhorai Modaliar was ordered to be printed and distributed among the members of the Board of I.C and the Silk Association. A draft to the Supdt. Govt. Printing is also put up.

18.27.3.29

Please issue & submit

20/3

Issued No. D. 9980 dated 30-3-29.

For kind perusal

S.O. 1/4

Please let me have a printed copy

(Dev. Secy.)

15/4/29

15/4

3 Resubmit 18.1.4.29

REV. SECRETARIAT
15 APR. 1929
DEVELOPMENT BRANCH

7954 (13 App. F. III—2] (2

General and Revenue Secretariat

Servi File No. 1 of 1928

Serial No.

D 9200

First Member's orders in File No. Servi 1-28-12:

Where is Mr. Appadurai Mudaliar's report? The Dir. should be asked to get it and send it with his remarks.

The M.S. report of Mr. V. M. A. Mudaliar is sent for perusal. The Dir. has promised to submit his remarks later on.

Submitted with a draft to the Dir.

1st 1.6.29

Issue
Cen
4.6.29

~~Draft~~ D.O. No. D 12983 dt 7.6.29. issued.

D.P.D.

G. & REV. SECRETARIAT
13 JUNE 1929
BRANCH

Seri 1-28-14. 1828

REPLY

(*To be written on this margin.*)

M.127

OFFICE OF THE
FIRST MEMBER OF COUNCIL

NOTE.

Dated 26th August 1929.

Mr. V. M. Appadurai Mudaliar's report on the Sericultural problems studied by him during his deputation to Europe is not yet come. Please remind the Director of Industries & Commerce.

26.8.29

Development Secretary with compliments.

CHIEF & REV. DEPT. SECRETARIAT
1828
27 AUG. 1929
DEVELOPMENT BRANCH

26.8.29

2 dft

Aug 29/8/29

3 The report of work done by Mr. V. M. Appadhorai Mudaliar was received in March last. The Dir. was asked to submit a printed copy of the report, together with his remarks. These have not been received yet. Submitted with a draft. The M.S. [illegible] 29.8.29 report is for perusal

VS

issue draft [illegible]

Aug. 31

Serial No.

15 No D 2630 d/ 31/8/29
To the Dir of I&C
Requests him to submit very early the printed report of the work done by Mr V. M. Appadorai Mudaliar during his deputation to Europe.

4 Subd after issue.

Ks. 4.9.29.

1610
9/9

5 Typed report of Mr V. M. A Mudaliar is submitted (1st member) for perusal. Printed copies are awaited.

Eng 6/9/29

6 The points raised in the Report may be noted on

12.9.29

13.9.29

Eng 17/9

16 Letter No. Dy. 2643-29 d/ 10th Septr. '29 from the Dir. I&C forwarding 2 printed copies of Mr V. M. A's report, together with his own remarks.

7 The important portions of Mr. Appadurai Mudaliar's report are marked. They have been noted upon by the Director. Subd for orders.

Ks. 18.9.29.

Note—Contn. Sheet

REPLY

(To be written on this margin.)

OFFICE OF THE
FIRST [illegible] COUNCIL
20 SEP. 1929
No. M164

16

OFFICE OF THE
FIRST MEMBER OF COUNCIL.

NOTE.

Dated 20th September 1929.

Reference:- Mr. V. M. Appadhorai Mudaliar's Report on the work done by him during his deputation to Europe.

Page 2.

8 Mr. A. states that the system of rearing known as Cavallone Fruilano has obvious advantages. Have we tried this system? If not, is it not worth-while giving it a trial?

Page 3.

9 I hope Mr. A. has made available for the use of the Mysore Silk Association the Reports, Bulletins etc., of the Association at Milan, of which he states he has obtained copies.

Page 4.

10 Have we all the appliances for testing silk to which Mr. A. refers here. If not, is it not necessary to get such of those which we need but which we have not now?

Orders have been placed for a few appliances.

11 Some experiments in making machines for stifling cocoons are, I believe, being made. Enquiry may be made as to what progress has been made with this investigation and if any appliance which is portable and fairly efficient has been made.

Experiments are being made to construct an electric oven at the Filature. The D.S. recommends the purchase of a machine.

12 The device of weaving pictures out of silk yarn to which Mr. A. refers here is very interesting. He states that the Director of the Weaving Institute at Milan has offered to weave for us

Contd.

any picture if only we send a photograph of it to him. Enquiry might be made as to what it would cost to get a few -- say, a dozen -- silk cloths with the required pictures woven out of our best silk. It is also worth-while finding out what a loom capable of this work would cost. If it is not particularly expensive and if no high degree of skill in weaving is required, we might get a loom of this kind and produce silk cloths with pictures. It seems to me that such cloths, if not very expensive, are likely to prove popular and sell well. I understand some work of this kind is already being done by local weavers and they might be encouraged by specimens of such work obtained from Italy and by demonstration on a loom specially devised for the purpose.

Page 6.
The Dir. reports that the Italian eggs are being reared experimentally in the Farms

13 Is it not desirable to carry further experiments with a view to find out ~~if~~ Whether Italian eggs cannot thrive here?

14 Mr. A. states that he has twelve Thermometres presented to him by the proprietors of Istituto Bacologico E. Mari. How it is proposed to dispose of them may be ascertained.

15 Mr. A. ~~states~~ refers to the new rearing ~~appliances~~ appliances called Bombiteca designed by Mr. Mari and he states that one of these appliances has been presented to him by Sr. Mari. We may ascertain if any experiments have

have been carried out by using this appliance and if so, with what results.

Page 7. 16 Enquiry may be made as to whether the observations of manufacturers who have been requested to weave different kinds of cloth out of our silk yarn, in regard to the suitability of these yarns for high grade fabrics, have since been received.

Page 11. 17 Here Mr. A. states that the test~~s~~ conducted in regard to the suitability of our silk yarn for high grade fabrics did not give satisfactory results. It would be well to find out in what respects our yarn is defective and how the existing defects should be remedied. Although there is sufficient demand for our silk in Mysore and in India and this demand will increase if the experiment of making high grade silk fabrics to replace ~~the~~ imported fabrics succeeds, it would be well to make enquiries with a view to find out if there is any European Market for our silk yarn. If there is an effective demand at paying prices, we can concert measures for expansion of this industry.

Page 13. 18 We have employed a Botany B. Sc., for a systematic study of the methods of mulberry cultivation. As soon as his training under the Botanist of the Agricultural Department is completed, a definite programme of his work should be drawn up in consultation with the

the Director of Agriculture and carried out regularly.

19 Mr. A. refers here to improved grainage appliances. He might be asked to get some samples of these appliances made and try them in some Farm.

20 It is now our policy to attract young men with some education to start private grainages. We have now some six of such grainages and the Director has been requested to see that this number is ~~at least~~ doubled this year.

21 Mr. A. refers to " a simple design for a machine for crushing moths". He might be asked to get one of these machines made and see if its working is an improvement on the existing method

The Dir. reports that the Asst. Supdt. has been requested to prepare this apparatus for demonstration at the Exhibition.

22 He also refers to a simple design for Leaves Chopping machine. He might get one of these machines also made and see how it works.

23 His suggestion that educated young men should be attracted to this industry by the grant of ~~a~~ fairly large plots of land is a large problem which the Director may be requested to consider.

Page 15.

The Dir. has promised to address the [illegible] on the subject.

24 Mr. A. states that "Lysoform Greggio" is as good a disinfectant as "Formalin" and ~~much~~ less expensive. This might be required to be tried in one of the Farms.

25 Mr. A. particularly emphasises the need for a Conditioning House. The Silk Association has to organize measures for starting a House of this kind and

and I hope it will pay early attention to this important matter.

26 Mr. A's complaint regarding the over-capitalized condition of the Filature at Mysore has already been remedied.

27 Action is also being taken to provide the Filature with a new building which is more adapted to its needs and which will take better care of the health of the operatives employed therein.

28 Mr. A. states that the present method of purchase of cocoons for use by the Filature is not satisfactory and that it requires improvement on the lines indicated by him. The Director may be requested to consider this suggestion and offer his opinion.

29 The proposal to improve ~~the~~ silk weaving by introducing modern looms capable of turning out high grade fabrics to replace ~~the~~ imported fabrics is under consideration.

Development Secretary with compliments.

20.9.29

DEVELOPMENT BRANCH
2720

30 Please put up dft of a letter to the Dir. ITC as above

21 9 29

23/9/29

2333
2720

21

General and Revenue
Secretariat

Seri File No. 7433 App. F. III—2]
of 1928

Serial No.

31 Subd with a draft in accordance with First Member's minute. The Director's report on Mr V. A's book (Sl. 16) is also subd for perusal & orders.

18. 8/10/29

32 Draft subd for perusal before issue.

The Dir's report will be separately noted upon after issue of the draft.

Information on some points referred to in the Dir's letter has now been called for

Dev Secy

15/10/29

33 Issue

17/10/29

17 D. 4216/ dated 19/10/29.

To The Director &c.

with refce to sl 16, makes certain observations and requests that the suggestions of Mr Appadore mudaliar may be examined and a report submitted together with infn on certain points.

GEN. & REV. SECRETARIAT
4 DEC. 1929
DEVELOPMENT BRANCH

18 Letter No. Dy 2643/27 of 28th Feb. 30 from the Dir. I&c submitting his remarks on the points raised in the Member's minute at pages 3-7.

34 Subd for perusal with reference to 1st Member's minute of 20.9.29.

35 The Director's report on Mr. A. Mudaliar's book is also subd for perusal and orders.

18. 5.3.30

36 I have made a few remarks in the margin of the Dir's letter, for the sake of convenience.

Dev Secy)

5/3/

37 I also.

1st Member) Subd

11.3.30

11 3 30

5399

Note—Contn. Sheet

WD 01684—GPB—30,000—20-4-29

General and Revenue Secretariat

Seri File No. 7433/4 obb 30 App. F. III—2] of 1928 (9

Serial No.	
	30 Please put up off reply incorporating marginal observations applied by the Member. 13 3 30 Eng 15/3/
	39 Draft submitted 18. 24.3.30 40 Issue Eng 24/3/
19	D. 10881/ dated 29/3/30. To The Director, etc. Makes certain observations on the remarks of the Director etc re: Mr. Appadhore Mudaliar's report.
20	Letter No. Dr. 2643-27 dated 18th November 1930 from the Dir. I.S. proposing that the Silk Institute at Como (Italy) may be asked to weave about 20 pictures of H.H. on silk cloth, the cost being borne by the Seri. Dept., and stating that the question of obtaining a loom may be considered after the pictures are recd. and found satisfactory.
P Q.	41 Submitted for perusal and orders. (Refer para 12 - pages 3-4 of the notes, and page 4 of Mr. Appadhorai Mudaliar's report) 18. 20/4/30
	42 The present proposal to get about 20 pictures of H.H.

DEWAN'S OFFICE
3123
8 - DEC 1930

27 NOV. 1930
No. 1964

Serial No.

woven as are silk fabrics at actual cost is one of the several points on which the Director was requested to take action in first letter of 29th March 1930.

43 It is expected that the cost will not be prohibitive as the Institute in Italy has agreed to charge only cost of labour and of the materials used. This will enable the Dept to offer some new designs to be copied by local weavers if possible.

44 The Director's proposal may be sanctioned, the cost to be debited to the sanctioned budget grants of the Seri. Dept

20/11/30

Dev Secy

Br. 26/11

26/11 Hon. Member.

26/11/30

45 2/12/30

46 DO

2/12/30

47 Draft subd.

6.12.30.

For approval.

48 May perhaps be subd to Dewan also for perusal before issue

6/12/30

6/12 Dev Secy

49 For perusal before issue

Dewan

Br 8/12

8/12/30

9/12/30

50

10/12/30

Br 10/12

4 App. F. III—2] (24

General and Revenue
Secretariat

Seri File No. 1 of 1928

	Serial No.	
Reg. Mcq. 5.12.30 ([illegible] remind the Dir. D.I.C. on the other point referred in 10.	21	G.O. Nos. 6186-79 12.12.30 sanctioning the proposal of the Dir. to have twenty pictures of H. H. women in Mysore silk. R. 25 GEN. & REV. SECRETARIAT. 26 MAY 1931 DEVELOPMENT BRANCH.

NOTE—Contn. Sheet

1.

App. F. III—2] 11

General and Revenue
Secretariat

Seri File No. 1 of 1938.

OFFICE OF THE
1 ... 1931
No. 2303

Serial No.

21 G. O. No. D. 61867 dated 12th Dec. 1930 sanctioning the proposal of this Dir. to have 20 pictures of H. H. woven on Mysore Silk.

22 Letter No. D4-2643-27 dated 28th May 31 from the Dir. of I&C stating that the charges for weaving 20 pictures of H. H. on Silk would amount to Rs. 750/- or about Rs. 37-8-0 each and stating that the question may be dropped as the price is excessive.

51 Subd. for orders with reference to para 12 of the notes and Ss. 20 and 21.

Kb. 2. 6. 31.

52 As the Director says, Rs 750 for weaving 20 pictures in silk supplied by us is excessive. It would also show that it would not pay to purchase a loom to produce woven cloth with pictures and designs.

53 As it would not be possible to find money for this work in the coming year, the proposal may be temporarily abandoned

2. 6. 31

5/6 Dev Secy
1st Member

15 6 31

15/6/31

54 Must
(16 6 31)

16 6 31

16/6/31

NOTE—Contn. Sheet.

55 Draft Subd.
Kb. 17. 6. 31.

WD 02553—G PB—50,000—8 7 30

96

7841

File No. of 193

General and Revenue Secretariat

Draft for approval

K. P.
17.6.31

Issue
17.6.31

D 11271 dt 30.6.31 — 23

To

Dir. I & C.

with refce to s/re dated, that the scheme may be dropped for the present

2/7/31

GEN. & REV. SECRETARIAT
4 JULY 1931
DEVELOPMENT BRANCH

Duplicate

2)

Detailed Report

of work done by the Assistant Superintendent of Sericulture, Mysore, during his deputation on the Continent

DETAILED REPORT

of work done by the Asst. Supdt. of Sericulture Mysore during his Deputation on the Continent.

INTRODUCTION:-

The Director of Industries & Commerce in Mysore proposed the deputation of an Officer of the Department of Sericulture to the International Silk Exhibition at Turin in view of its importance and was pleased to recommend me for this deputation.

The benign Government appreciated the Director's proposal and pointed out it was very essential that the Sericultural Department should loose no opportunity of keeping in touch with the most recent developments of this industry elsewhere and was pleased to sanction my deputation in their Order No. D1471-2/Seri1-28-26 dated 4th August 1928 with instructions that I should take samples of cocoons and raw silk of all grades reeled both in Filature and ~~the~~ Domestic Basin.

The Director of Industries & Commerce prepared a note on the particulars I should study [redacted]

I received the Government Order sanctioning my deputation on the 7th August 1928 and I immediately made arrangements to collect necessary samples of raw silk in different deniers. As per Superintendents' letter No. 598 dated 28th July 1928 I handed over charge of my Office: Filature Section to the Filature Assistant and General Reeling Section to the Filature Demonstr [illegible]

[illegible] four years on the same [illegible]
[illegible] I [illegible] there for the days [illegible]
[illegible] to the [illegible], Secre-
tary to Government, Development Department, [illegible]
[illegible] letters of introduction and [illegible]
[illegible] with the Director [illegible]
in Rangoon.

[illegible] on the [illegible]
from [illegible] to [illegible]. The letters of introduction
[illegible] to me by the Director of [illegible] His Majesty's Trade Commissioner Bombay [illegible]
[illegible] Commerce in Bombay, Secretary, Indian
Chamber of Commerce, Bombay, and the Italian Con-
sul in Bombay. I [illegible]
[illegible] the Director of Industries, [illegible]
Trade Commissioner, Secretary [illegible]
and the Italian Consul.

[illegible] Chamber of Commerce and the
Director of Industries [illegible] introduced me
to the Italian, [illegible], and German Consuls, [illegible].
His Majesty's Trade Commissioner was [illegible]
enough to give letters of introduction to the British [illegible]
[illegible] in Italy, France, Germany and [illegible].
The Italian Consul at Bombay was [illegible]
that an Indian [illegible] was proceeding to [illegible]
[illegible] Exhibition of [illegible] and [illegible]
introduction to [illegible] of the [illegible]
President of the [illegible] Exhibition.

I sailed from Bombay to Venice [illegible]
[illegible]
[illegible] students from all parts of India, [illegible]
[illegible] going to England [illegible]

[illegible]

as per G.O. quoted above was for about two months including Voyage, it was further extended by two months. as per G.O. No. D4928-29/Seri 55-28-3 - dated 10th November 1928 to enable me to visit Switzerland, Germany, France and Belgium with a view to gather information pertaining to silk and other industries in those countries. Considering the countries that I had to visit the time at my disposal was too short; the sanctioned period was exceeded by twelve days by the time I complete my tours in the Continent. I was able to return to Italy only on the 6th January 1929 and stayed in Italy till the 18th January 1929 to catch the earliest steamer sailing to India.

PERIOD OF DEPUTATION:-

The period of deputation was from 22nd August 1928 to 6th February 1929. The following are the details of time spent including Voyage, journey, in train etc.:

22-8-'28 to 28-8-'28.	Journey to Bangalore and Bombay including halts at Bangalore and Bombay.
29-8-'28 to 14-9-'28.	En voyage (Bombay to Venice).
15-9-'28 to 29-11-'28.	Stay in Italy.
30-11-'28 to 6-1-'29.	Tours in France, Belgium, Switzerland and Germany.
7-1-'29 to 18-1-'29.	Stay in Italy.
19-1-'29 to 4-2-'29.	Return Voyage from Venice to Bombay.

5th and 6th February 1929 in train from Bombay to Bangalore.

CHARGE:-

On the 7th February 1929 I reported to duty to the Director of Industries & Commerce in Mysore [illegible] [illegible] [illegible] [illegible] in [illegible] [illegible], [illegible] During [illegible] [illegible] [illegible] [illegible] Council leave [illegible] but instead returned to [illegible] and received charge of [illegible] office [illegible] [illegible] [illegible] on the [illegible] [illegible] 1950.

[illegible]

[illegible] to visit in Italy [illegible] [illegible] Milan, [illegible] [illegible] [illegible] [illegible] Florence [illegible] [illegible] [illegible] Rome, [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] in [illegible] [illegible] [illegible] [illegible] in Germany [illegible] [illegible] [illegible] [illegible] in [illegible] [illegible] [illegible] [illegible] [illegible]

During the period of my stay [illegible] the [illegible] and [illegible] in Italy, I had an occasion to make [illegible] study [illegible] in the [illegible] of the [illegible] of silk industry in Italy and other [illegible] [illegible] [illegible] and [illegible] [illegible] the [illegible] of the [illegible] I have already [illegible] in my report [illegible] [illegible] [illegible] [illegible] In [illegible], [illegible] and [illegible] details [illegible] in [illegible] [illegible] etc., [illegible] did not find a place in the [illegible] report.

[illegible] in the International Silk [illegible] [illegible]

In the Rearing position different systems of [illegible] ③ adopted [illegible] more part of the [illegible] [illegible] were [illegible] in Italy and France. [illegible] not much difference between the two systems [illegible] in [illegible] [illegible] to local conditions.

and stands, the design of the stand is such as to accommodate worms on a wooden framework shaped like a gabled roof with rafters at equal intervals and spacers one inch apart. At the base of the stand are two planks six inches broad, one on each side. It is possible to feed the worms with entire branches a few days after the fourth moult by placing the branches vertically on the sloping sides making the branches rest on the plank at the bottom of the stand. At the time of cleaning, fresh branches are placed on these stands. When all the worms crawl up, the old ones are removed. No nets, perforated paper, or [illegible] is required for changing litter. There is absolutely no chance of the accumulation of excreta near the worms as they directly fall to the ground. The worms reared in this way are considered to be very healthy as they are subjected to natural treatment and less handli Above all, the design itself is hygienic and the c culation of fresh air helps the healthy growth of worms.

SYSTEM [illegible]

The framework of the rearing stands etc., in this system consists of angle iron and the bottom of the trays are lined with wire gauze with thin meshes. The rearing stand and trays are of three different dimensions to rear the different stages. Each tray is meant to rear only a certain number of worms upto a certain age the space being just enough to extend them in the same tray till the worms reach this stage. The bigger trays are also used for mounting worms by placing circular bunches prepared in straw and thin wire. For preparing this circular [illegible] simple appliance which can be prepared locally within Rs10/-.

CHARTS.

Showing the details ~~of~~ and methods adopted for propagating trees, Chepaya system including pruning, grafting, and training of trees were neatly arranged on one side of the rearing hall and cocoons of various breeds such as Inorocia Poligiallo, Giallo indigeno, Spherico Roscio, Biagiallo chinese, Chinese Oro, Bianco Giallo, Giallo indigeno, Chinese Bianco, Giopponese Bianco, orca Bianco, and Giopponese Bivoltino Bianco had been arranged neatly to attract the attention of the visitors. Like all other advanced Sericultural countries, Italy also has a well organised Silk association with separate associations for Seed producers, Filatures, Silk Throwsters, Dyers, and eavers. I availed the opportunity of visiting ll those associations at Milan and discussed wit hem the object and scope of these associations. hey have also presented me with their articles f association, reports, Bulletins, and interesting charts for our use. The most valuable publication among the reports received by me is the eport of work done for 50 years from 1877 to 192 y the Silk reelers and Silk Throwsters Association. This report will serve a very useful purpose to the Mysore Silk Association to chalk out efinite lines of work for the Association.

The Seed Producer's Association and the Silk eelers' and Throwsters' Association have also taken an active part in the Exhibition by displaying ery interesting and educative exhibits with precise explanations near each exhibit.

The following are some of the details of exhibits displayed by these Associations:-

Charts showing anatomical details of Silk worm pupa, and moth, scientific appliances required in grainages and rearing rooms such as GEMIORINO to separate male and female cocoons, Perforating machines to perforate papers in different stages for the use of rearing rooms, floss removing machine, and automatic closing machine for closing paper cellules. This machine seals 3600 cellules per hour

WAX MODELS:- Silkworm eggs magnified in 21 stages showing the various developments from laying to hatching:-

Stage 1 to 3	No depression in the centre, colour uniform (Yellow).
" 4	Slight depression in the centre and slight change in colour.
" 5	Brown colour with slight depression.
" 6	Prominent marks with pentagonal sides
" 7	Black spot with chocolate shade.
" 8 to 9	Orange tint with depression.
" 10	Black marks more prominent.
" 11 to 13	Changes difficult to make out.
" 14	Slightly greenish.
" 15	Micropyle very prominent
" 16 to 20	Changes during incubation period.
" 21	Hatching.

Another set of models in 12 stages showed the gradual developement of embryo. On enquiry, I learnt that these models are specially prepared for the Seed Producers' Association and was not meant for sale.

DEMONSTRATION SECTION:- In this section Messrs Battaglia & Co., exhibited all the types of basins manufactured by the firm including their Domestic Basin. The firm had also arranged for a reeling demonstration every day with two basins.

Messrs. Schweiter & Co., (Switzerland) exhibited their silk throwing demonstration with their demonstration with their plants.

The Weaving Factories of Como, Turin, and Lyon had arranged weaving demonstrations. Besides many weaving establishments of Turin, Como, and Lyons, had their stalls in which they arranged all their products in a very attractive style

The Silk Conditioning House of Milan, Messrs. Spheroni & Co., Milan, had arranged a show of all their scientific appliances for testing silk, such as serimeter, epprovette, electric oven for conditioning silk, skeining machine, kilcha machine, denier scale, cohesion machine etc

Messrs. Geronnazzo & Co.,Milano, manufacturers of dye stuffs had arranged a show of the dyes manufactured by them such as antigonna bianco, marlialo, gelatine, colore rosso, colore murron, antigonna giallo, solforicianato, colore bleu, serolina, morilialo, annofludate, newlina etc

The manufacturers of machines for stifling cocoons exhibited various kinds of stifling apparatus System Pelegrino is about the best and the next best type is 'Karte'. This machine can condition 700 to 800 kilogrammes of cocoons in eighteen hours and the cost is about ~~1700~~ 7500 liras.

Ente Nazionale Serico, Milan, exhibited beautiful collections of silk weaving manufactured at the Silk Weaving Institute, Como like the "Picture of Christ, Last supper" with his twelve apostles woven in black and white. The finish is so perfect that it looks almost like print from a near view. I have purchased one specimen, the bust of the King of Italy which I sent to the Industrial Assistant on 19th February 1929. The Director of the Weaving In-of the Weaving Institute, Como, is prepared to weave for us anything on receipt of a photograph. I think it is worth while to get our Highness' bust, religious reformers like Shankaracharya, Ramanujacharya, Madhwacharya, Ramakrishna Paramahamsa etc., woven in this Institute with our silk. If the finish and the likeness is attractive large orders may be placed. I am sure those pictures will find large sales, not only in Mysore but also in other parts of India.

Various kinds of silk ~~ma~~ piecegoods including silks for ties, charts showing various kinds of textile fibres were some of the exhibits in this stall.

SERICULTURAL STATISTICS.

(By the Istituto Centrale di Statistica.)

Raw cocoons produced in 1927.	50,701,974 kgs.
Silk reeled in 1927 with Italian cocoons.	4,626,910 "

Average renditta of Italian raw cocoons from 1923 to 1927.

1923	11.25	kilogrammes	for 1 Kg of raw silk.
1924	10.75	"	"
1925	10.90	"	"
1926	11.05	"	"
1927	10.85	"	"

Prices of Italian Raw silk, 13/15 denier Extra Classical during the year 1927.

January 1927	Liras	297 to 325	per kilogramme.
February "	"	310 to 315	"
March "	"	300 to 309	"
April "	"	290 to 305	"
May "	"	[illegible]	"

Raw silk prices continued

June	Liras 250 to 260	per kilogramme.
July	" 217 to 225	"
August	" 210 to 205	"
September	" 205 to 215	"
October	" 202 to 215	"
November	" 200 to 205	"
December	" 195 to 200	"

(92 Liras to £1/- sterling)

Average price of raw silk every ten years.

1831	Liras 41	per kilogramme.
1841	" 67	"
1851	" 60	"
1861	" 70	"
1871	" 77	"
1881	" 57	"
1891	" 45	"
1901	" 42	"
1911	" 42	"
1921	" 405	"
1927	" 500	"

The value of silk exports compared with that of the total value of other exports.

Year.	Total exports. In Liras	Silk exports. In Liras
1916	L 3,088,279,772	484,354,017
1917	6,300,510,250	816,836,557
1918	3,344,700,715	654,400,000
1919	6,063,742,072	1,244,711,401
1920	11,774,120,033	1,205,356,286
1921	8,275,006,061	2,274,410,011

Total exports exclude precious metals; silk exports, artificial silk.

Italian exports and imports of silkworm [illegible]

Year		Imports.	Exports.
1924	Ozs.	[illegible]	[illegible]
1925	"	[illegible]	97,000.
1926	"	[illegible]	[illegible]
1927	"	[illegible]	[illegible]

COCCON CROPS IN ITALY.
(From 1913 - 27)

1913	40 million kilogrammes.
1914	49 "
1915	32 "
1916	40 "
1917	30 "
1918	28 "
1919	22 "
1920	42 "
1921	38 "
1922	41 "
1923	55 "
1924	56 "
1925	48 "
1926	43 "
1927	50 "
~~192~~	

Quantity of silk tested in the Silk Conditioning House at Milan
(1918 - 1927)

1918	2,00,000 kilogrammes.
1919	8,00,000 "
1920	2,50,000 "
1921	3,50,000 "
1922	3,10,000 "
1923	2,00,000 "
1924	2,00,000 "
1925	6,30,000 "
1926	5,00,000
1927	3,00,000 "

MANUFACTURE OF ARTIFICIAL SILK (From 1922-27)
(By Messrs. Snia Viscosa & Co.
Turin, Italy.)

	1922	1923	1924	1925	1926	1927.
United States	11	16	17	23.5	28	34
Italy	3	5	8	14	17	23.5
Great Brittain	8	8	11	12	12	18
Germany	5	6.5	10.5	12	13	16
France	3	3.5	6	8	9	14.5
Olanda	1.25	1.5	2	4	6.5	8
Belgium	3	3.5	4	5	5	6
Switzerland	.75	1.5	2	2.75	3	4
Snia Viscosa Co.	1.75	3	5.25	9.25	10.	3

(The figures are to be read in million kgs.)

N.B. It can be seen from the above figures that this industry is rapidly progressing due to efficient organisation.

SILKWORM SEED:-

The proper season for us to get Univoltine eggs from Europe is somewhere between August and September. In that case eggs will not have been subjected to cold storage. Winter eggs removed from cold storage and sent to India under varying temperatures may not give good results. During my recent visit to Ascoli Piceno Mr. Lari was kind enough to get me two ounces of pure Italian eggs from Messrs. ~~[illegible]~~ Sorelle Polimanti & Co., for trial here. I very much doubt the success of thes rearings and so, it would be better to get seeds again in time this year for our experiments and not deduce that Italian eggs cannot thrive in Mysore.

The Proprietors of Istituto Bacologico A. Lari have presented me with twelve thermometers with hints for rearing silkworm on them. These are meant for free distribution to their clients.

From other graineurs I have also received catalogues, and calendars etc.

Prof. Acqua, Director of Research Institute, Ascoli Piceno, expressed a desire to conduct experiments with our worms in his Institute. He said he would write to me at the end of March after making necessary arrangements with Italian steamship companies to preserve these cocoons in refrigerators to delay emergence of these moths till it reaches Brindisi. He has also promised to give us the results of his experiments.

On the suggestion of Prof. Acqua, I have also purchased for the use of our Department one Binocular Scopi for finding the sex of the worms sex of the worms in the last stage. This is a new appliance manufactured by Mr. F. Koristka of Milan as per Prof. Acqua's instructions. This appliance is purely of scientific interest and may be used for experimental work. It may not be useful in big grainages where cross breed layings are prepared on a large scale.

BOMBITECA:- is one of the new rearing appliances designed by Mr. Hari for mounting worms and he has already taken a patent for it. The advantages claimed by the inventor are (1) univoltine or hybrid worms crawl up to these apparatus even without supervision. The worms find a convenient place for them to spin cocoons; (2) percentage of double cocoons are greatly minimised in this system; and the rearers are satisfied with the results obtained (3) cocoons spun in this are properly shaped, firm in texture, the worms do not waste much silk as they find a ready place for spinning; (4) removal of cocoons is also very easy and the cocoons obtained in this are clean, free from urine, and excreta. Just now his cost price for each Bombiteca is 15 liras or in Indian money Rs.2/-. Mr. Hari thinks it too costly and his ambition is to reduce the cost by atleast 50%. He is now thinking of having a special plant to manufacture these on a large scale so that he can sell them cheap.

Mr. Hari was kind enough to present one Bombiteca for our use and he has also permitted us to prepare upto 50 for our experiments. If the experiments prove a success he wants to popularise the use of these Bombiteca in India through us. Mr. Hari is also aware that his Bombiteca will not

Buildings will not be very useful for polytechnic. It may do well for [illegible] forms. In company with Mr. [illegible] I also had an occasion to visit the Poly-technic Institute, [illegible], [illegible]. The [illegible] received me kindly and showed me the various sections of the Institute such as carpentry, stone carving, clay modelling, iron casting, electric engineering, arts and other sections of the Institute. In this Institute students are trained in any of these subjects in which they are interested. By the time the student finishes his course he will be fully qualified in practical work and will not in the least be deficient professionally. He can easily eke out his livelihood and settle in life. Dignity of labour is very well impressed on the minds of students in an Institute of this kind.

The Institute is very well equipped with all machines and appliances required for the use of the students. In sculpture and model section a large cutting machine is fitted up to saw stones required for the work.

In the metal workshop there are up-to-date machines for screw-turning, power hammering, moulding with oxy-acetylene flame; in the carpentry section machines for wood carving, miscellaneous machines to manufacture high class furniture and delicate house-hold requisites in wood. In the casting section both plain and ornamental castings, parts required for all machines such as screws, bolts, nuts

[illegible] Pietro [illegible], engineer and Direc-tor of the Institute were kind enough to present me with a curriculum of the Institute and pleased to give me an idea of the system of work of this Technical Institute in [illegible] institutes as follows:-

1. As a rule all these polytechnic institutes in Italy are being maintained partly by the districts and municipalities. The Italian Government contributes a grant to cover a portion of the expenditure and the pay of the staff.

2. The rich generous public give endowments to these institutions. Usually these institutes are named after the donor.

3. Such institutions are managed by special committee consisting of the representatives of the district and the Municipal Administration. Government do not interfere in the internal administration of the institute.

4. Any candidate [illegible] general qualifications for admission to these institutions.

5. The subjects taught are not the same and it depends on the nature of the industry popular in the district or province. Subjects that would help the people of that place to develop the indigenous industry are taught.

6. No scholarships are paid to students. On the contrary, the students will have to pay a nominal fee for the cost of raw material required for practical work. The students are not heavily taxed for the material being a nominal sum.

7. All the sale proceeds of finished products are taken as receipt to the institute. Any surplus over the anticipated receipt is distributed among the staff of the respective sections.

8. The intention of Government just now is to start as many elementary vocational schools as possible to train skilled manual labour to provide enough men for the industrial concerns.

9. For higher degrees and diplomas only people with higher educational qualifications are admitted.

10. In addition to these there are Government polytechnic institutes. Students who come out of these institutes are preferred to students who are trained in institutes managed by municipal and district control in recruitment to Government service.

VISIT TO GLASS FACTORIES. I visited

the glass manufacturing in the exhibition at Turin and Venice. In Venice this is a very important industry. Glass is being carried on both on cottage and on a factory scale. The speciality of Venice is mostly in mosaic work and they turn out beautiful ware required for the use of ladies like brooches, pendants etc. In a cottage industry machines are not at [illegible]

[illegible] melt the metal with a powerful blow lamp. The liquid solidifies on contact with air. [illegible] into which the molten glass [illegible] [illegible] [illegible]

[illegible]

Experiments with Mysore raw silk of standard sizes reeled both in Domestic Basin and Mysore Filature-

I had taken with me [illegible] pounds of raw silk for purposes of conducting tests in all its aspects. In Turin, I have distributed some skeins of standard sizes to Silk Dealers' Association and [illegible] to Mr. [illegible], Ascoli Piceno, abt [illegible] pounds, and the rest to Messrs. [illegible] Milan with a request to test our silk in weaving and hosiery. Mr. Neri has kindly agreed to weave both in Milan and Como through his friend Mr. [illegible] of Milan. Messrs [illegible] & Co., Milan agreed to send our silk to Germany for hosiery works.

The latter firm did not receive the knitted goods from Germany till my departure to India. I hope they will be in a position to send it soon together with the manufacturers' observations, cost etc.

Just at the time of my departure from Italy, Mr. Neri was able to give me about 30 meters of silk woven with our silk and promised to send the manufacturers' observation, cost of production etc., as early as practicable. Copies of letters received from Mr. Neri and the Conditioning House certificates are herewith annexed.

[illegible]
[illegible]LAND.

The main items of work in these countries was in connection with the selection of special silk looms for the manufacture of high class silk fabrics in [illegible] to study the possibilities of manufacturing spun silk out of Mysore silkwaste, [illegible] to [illegible] reel spinning and [illegible] silk; [illegible] the methods of manufacture adopted in cottage industries such as manufacture of buttons, toys, [illegible] wood work, manufacture of glass ware including [illegible] manufacture of porcelain ware, [illegible] work and other domestic industries; methods of [illegible] adopted in industrial and technical schools [illegible] devoted to general education, [illegible] the methods of [illegible] for employment; visiting [illegible] machinery, [illegible] machines etc., and trade organisations likely to be helpful in establishing commercial [illegible]

I toured in these places for 58 days, nine days in France visiting Lyons and Paris, eight days in Belgium visiting [illegible], Antwerp and Liege, fourteen days in Germany visiting Berlin, Leipzig, Chemnitz and [illegible], and five days in Switzerland visiting Zurich, Basle, [illegible] and [illegible].

[illegible] Lyons.

2. [illegible], the British Consul at Lyons, was very kind [illegible] the most important industrial [illegible] me that may be visited in Lyons. [illegible] Chambre de Commerce [illegible] [illegible] [illegible]

Gold thread manufacture.

I met Mr. Morel, one of the partners of Messrs. Chavrieres-Morel & Co., He expressed a desire to renew their agency for Mysore silk. I gave Mr. Morel to understand that the demand for high grade silk in India is increasing and that we are not very keen in renewing our business in France until the rate of exchange is stablised and good rates assured. Mr. Morel kindly agreed to translate all accounts sent by him in French on receipt of copies of accounts sent by him till now.

I met both Messrs. Charleux and Berthaud and requested them to furnish estimates for a throwing mill of 192 spindles, scientific appliances required for testing raw silk, and for twenty-four basins for Mr. F.L. Silva of Bangalore.

I also placed an order with the firm for some spare parts needed for Government Filature at a cost not exceeding Rs200/-.

Visit to Silk Conditioning House, Lyons:- Mr. Testinoier, the Director of the Conditioning House was kind enough to explain to me the nature of work of the said House. The Lyons Conditioning House is a very old institution in Europe, established nearly 120 years ago. ~~ThexfollowingxfiguresxarexX~~

Details of silk tested in Lyons Conditioning House.
(From 1805 - 1910.)

From 1805 to 1820	1,[illegible]8,0000	Kgs of raw silk.
1821 to 1830	1,06,5000	"
1831 to 1840	1,37,0000	"
1841 to 1850	3,11,0000	"
1851 to 1860	5,28,1000	"
1861 to 1870	5,06,2000	"
1871 to 1880	8,21,7000	"
1881 to 1890	9,84,5000	"
1891 to 1900	12,52,2000	"
1901 to 1910	14,[illegible],0000	"

[illegible] shows that the [illegible] textile manufacturers [illegible] have any direct [illegible] in [illegible] the [illegible] owners, [illegible] transaction [illegible] through [illegible] after the [illegible] and [illegible] regarding the quality etc.

[illegible] in [illegible] labour and [illegible] textile [illegible] it very popular [illegible] the finest [illegible] could [illegible] visit [illegible] not allowed [illegible] to visit [illegible] [illegible] from France is [illegible] Indian [illegible]

[illegible] very kind in giving the addresses of textile machine manufacturers [illegible] I have to visit in [illegible] Germany and [illegible] catalogues [illegible]

[illegible] Textile [illegible] Ltd [illegible]

This [illegible]

special fabrics noted below:-

For the manufacture of Crepe Faconne Georgette ~~xxxxx~~ 3 x 13/15 denier crepe with 3200 turns is used for warp and 3 x 13/15 denier with 3200 turns crepe for weft using silver lametta No. 30 odds on degummed silk.

For Lurclaise 16/18 denier raw silk for warp and Schappe spun silk 2/200 3 ends dyed in black for weft using lace used in Laminette Gold No. 17 odds on cotton.

~~w~~ I learn from the Director that Crepe Faconne Georgette and Luelaise are the latest fashions. All their looms were busy in the manufacturing the above fabrics.

WORK IN PARIS.

First met the British Consul and then the President of the French Chamber of Commerce with the letter of introduction given to me by the French Consul at Bombay. The President introduced me to his engineer Monsieur. Marcodet. In this Office I also met Mr. Jordon to whom I had a letter from the Director of Industries and Commerce in Mysore. Both of them suggested the textile machines manufacturers that I may visit, particularly they recommended me to meet Mr. Edmond, Wenning, Engineer to Societie Alsacienne de Constructions Mecanique, Paris who has better experience of textile machines and would be in a position to give me some idea about these machines. Unfortunately I was not able to meet Mr. Wenning as he was on tour. I met the General Secretary of the firm. He fixed up an engagement with me the next day and sent a wire to Mr. Wenning to meet me at his Office at 1 P.M. I met Mr. Wenning the next day at the appointed hour. This firm is ~~xxxxxxxxxx in~~ specialised in the manufacture of cotton looms and silkwaste spinning machines. As regards silk looms, Mr. Wenning advised me to see Messrs. Diederichs in Paris. For wool spinning plant he suggested that Germany would be a better place for me to obtain more information on the subject.

[illegible] promised me to prepare [illegible] but, in his opinion, [illegible] will not [illegible] their [illegible] before [illegible]. Unfortunately, the [illegible] from [illegible] 1. October 1939 [illegible] received [illegible] during the [illegible] week of January, 1940. So, I could not [illegible] to send [illegible] immediately, [illegible], I [illegible] suggested [illegible] to send a [illegible] quantity of samples to [illegible] early and [illegible] they would be in a position [illegible] estimate

[illegible] & Co. [illegible] – The Director gave me all the [illegible] loans [illegible] further details on any loans [illegible].

[illegible] also paid a visit to Brussels, Antwerp and [illegible] in those places for [illegible] hours. Mr. [illegible] provided me with a letter of introduction to [illegible] Netjovitsch, engineer, [illegible] all the industrial activities of Belgium in general. [illegible] my stay in Belgium was very short [illegible] in a position to [illegible] my visit and I learnt from him that Belgium is [illegible] more [illegible] machinery, metallurgy, manufacture of [illegible], automobiles, electric [illegible], sugar, [illegible] and various [illegible] industries and suggested that I should be in a position to gather information on all these industries [illegible] Germany.

[illegible] – [illegible] British Consul introduced me to his [illegible] Consul in charge of commercial section. [illegible] notes [illegible] the subject on which I [illegible] information [illegible] to collect information and send it on to us from time to time. Since my stay in Berlin was too short he suggested that I should approach the German Machinery Association who would be in a better position to arrange for my visits to industrial concerns and also provided me with two letters of introduction to the Secretary, German Machinery Association, and another letter to the British Consul at Leipzig

The German Machinery Association:- The Secretary was glad to meet me and I requested him to kindly arrange visits to some industrial concerns in Germany. This Association is an authoritative body in Germany and it is in touch with all the industrial concerns including machine manufacturers. He kindly promised me to prepare a programme of work for me and wanted me to meet him again the next day by which time he would be in a position to decide what all places and industrial concerns I have to visit. The next day when I met him, there was a programme noting the details of places and industrial concerns that I have to visit in each of those places. He gave me a general letter of introduction to those concerns and another letter to the Minister of Commerce, "PREUSSISCHES MINISTERIUM FUR HANDEL UND GEWERBE" requesting him to give me general permit to visit the industrial concerns. The Secretary was also very kind in presenting me with a very valuable book in English V.D.M.A. each letter of the title standing for a word which runs as VEREIN DEUTSCHER MASCHINENBAU - ANSTALTEN which translated into English is " Germany Machinery Manufacturers' Association ". This is a very valuable book giving all details about machines manufactured in Germany including the names of the members of this association, addresses for correspondence, telegraphic addresses of the associated firms of the V.D.M.A.

obtained a general permit from the Minister of Commerce the very same day and the first factory I visited in Berlin was the manufacturers of machines for matches [illegible]. The director took me round to his workshop, showrooms etc. It is here that I came to know the large number of machines that are necessary for the manufacture of matches. Some of the machines I saw in this factory are noted below:-

Machines required for the manufacture of splints:- (1) Cutter [illegible]. (2) Large and small circular saw. (3) Peeling machine. (4) Wood [illegible] machine. (5) Splint chopping machine. (6) Splint [illegible] machine. (7) Splint drying and polishing drum. (8) Automatic conveyors of splints. (9) Splint drying apparatus with steam heater. (10) Small splint cleaning and polishing drum.

Machines and apparatus for [illegible] filling and dipping the splints:- (1) Hand [illegible]. (2) Automatic. (3) Frame filling machine. (4) Automatic counterpoise for frame filling machine.

Machines for the manufacture of boxes:- (1) Wood peeling machine, (2) Box veneer chopping machine. (3) Outer case pasting machine for roll. (4) New outer case [illegible] machine for [illegible] labels. (5) Inner drawer pasting machine. (6) Combined box [illegible] and labelling machine. (7) Box labelling machine. (8) Box drying apparatus. (9) Automatic [illegible] for boxes, and so many other machines

[illegible] construction. The proprietors do not sell any machines except through the association. There is a [illegible] association to organise sales of such machines. I met the secretary of the association and I learnt that this association has [illegible] in India. From [illegible] India, I learnt they have sold [illegible] machines. This association has not supplied any machine [illegible] satisfactory.

[illegible] of [illegible] in these days [illegible] position it is not profitable to start [illegible] on a small scale [illegible] type machines. [illegible] I could see, the [illegible] of matches in the [illegible] industry depends [illegible] [illegible] [illegible] to [illegible] in a position to compete with foreign [illegible] in India.

VI. [illegible] A [illegible]. This institute [illegible] visited is an engineering institute where students [illegible] training in mechanical and electrical engineering. Students wishing to join this institute should [illegible] school [illegible] and qualified [illegible] should ha[illegible] completed their practical training in any one of the recognised factories, mechanical or electrical engineering for [illegible] years. The course of this institute is for [illegible] years. The Director took me round the [illegible] to all the [illegible] and workshop, [illegible] section etc., and [illegible] out to me that [illegible] the secretary of the engineering association [illegible] engineering association is doing a very valuable work in the way of [illegible] and [illegible] in technical education in elementary schools by means of [illegible] single or [illegible] joints [illegible] of iron [illegible] [illegible] to teachers as to [illegible] should teach [illegible] to the [illegible]. I have also purchased the following [illegible] for the use of our technical schools:-

1. [illegible] — Lamp [illegible] of [illegible] carpentry models etc. " iron [illegible].
2. [illegible]
3. [illegible] — Illustrated charts [illegible] fishing [illegible] [illegible] of work in Smithy
4. [illegible] charts;
5. [illegible] construction of [illegible] engines, [illegible] etc.
6. Illustrated weekly journals in simple style for the use of [illegible] ([illegible] and [illegible]) ([illegible] per week. [illegible] = [illegible]/-)

[illegible] institute [illegible] educational institutions [illegible] charts. [illegible] very [illegible] [illegible] [illegible]

It is worth while getting some of these charts for the use of our technical schools.

VISIT TO PORCELAIN FACTORY:- Koniglich, Berlin is a very old porcelain factory in Germany. This factory was started in the year 1763. But for the letter of introduction from German Machinery Association and general permit from the Minister of Commerce I would not have had access to this factory. They are very strict and usually do not allow visitors. The Director obtained special permission of the General Manager and took me round the factory, and explained to me in detail from Kaolin to finished product. This factory attaches more importance to old traditions; all the articles manufactured are modelled on the porcelain war used in olden days by emperors. Even the articles manufactured in this factory takes the name of either old castles or emperors. The paintings on vases, trays, cups etc., are not prints. Talented artists are employed to paint on the articles manufactured in the factory. They are in possession of valuable ancient models of porcelain ware used by the emperors. Besides many capable men are engaged in preparing models of the paintings or any models given to them and they are reproduced in large numbers. This factory gives also practical training to students deputed by the German University. The factory has an uptodate Laboratory for research work. The General manager of this factory is a fellow of the German University.

I collected many useful catalogues of modern irrigation and hand pumps.

One Mr. E.L. Shah, a Gujerati Gentleman of Bombay Presidency who is now settled down in Berlin doing general export and import business with India called on me and expressed a desire [illegible]

[illegible] all marketing [illegible] our [illegible] agent for [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] in [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] Germany is not [illegible] porting mica from India. Germany imports [illegible] Italy, [illegible] and [illegible]. He is willing to do business on a commission [illegible] [illegible] [illegible]. In my opinion, [illegible] for [illegible] will [illegible] India [illegible] moreover, [illegible] quite [illegible] this line [illegible] by [illegible] [illegible] large sales in [illegible] [illegible] [illegible] not [illegible] during his recent visit to [illegible] promised to send [illegible] samples of high [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] did not [illegible] satisfactory results. [illegible] [illegible] current [illegible] [illegible] samples and [illegible] 10/15 and 3/4 [illegible] [illegible] in [illegible] and [illegible]

[illegible] possible for me to visit the industrial [illegible] in Belgium [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] in the world. This [illegible] in [illegible] [illegible] [illegible] [illegible] with [illegible] [illegible] [illegible] [illegible] [illegible]

I visited the [illegible] Electric [illegible] and [illegible] information regarding [illegible] [illegible] il: looms and other machines:-

1. Messrs. Hartmann & Co., Chemnitz, specialised in manufacturing silk looms, wool & silkwaste spinning machines.
2. Messrs. Hewbolds, L. J., Chemnitz, this firm is specialised in manufacturing stentering, Stretching drying, and calendering handstretching, and glazing machines.
3. Messrs. Oswald Liebscher & Co., Chemnitz. The firm is specialised in the manufacture of machines for spinning rope, flax yarn.

AT NUREMBERG.

My visits in this place are confined to pencil and toy factories. Messrs. J.M. Viertel & Co., "Ever sharp" pencil manufacturers showed me the various designs manufactured by them and furnished ~~with~~ catalogues and price lists etc. The other pencil factory was "Mars" pencil manufacturers. These are specialists in manufacturing all coloured and blacklead pencils. I learnt from the Director that this firm also supplies pencils to the Government of Mysore.

TOY INDUSTRY:- I learnt from Mr. Herbart Mark, British Vice-Consul at Chemnitz that all the toy manufacture in metal is carried on in large factories with the aid of suitable machines, for cutting, printing and pressing in different colours. This kind of metal toy manufacture is mostly confined to Nurenburg whereas toys manufactured in wood etc., is carried in the surroundings of Nurenburg as a cottage industry. Mostly old men and women who are not fit for any other hard work are engaged in this kind of work. These people near about Nurenburg have a hereditary skill in the manufacture of toys. There is a separate organisation for this. The representatives of wholesale dealers in toys visit these villages periodically, advance money to the headman in the village and give him an idea of the toys required. He in turn distributes the work to the old men and women in the village, collects them and delivers to the representatives.

They can reject toys that are not of proper finish and some encouragement is also shown for good work, by paying extra rates. Usually the toys manufactured in Germany of metal and wood are largely exported to America, Australia, India, and England. I learn that in pre-war days Nurenburg was exporting more toys to India specially to Calcutta and Bombay. Just now, exporting toys to India has considerably decreased. I happened to visit Gebruecte Bloch Spielwaren of Nurenburg which is one of the highest manufacturing company in Nurenburg in toys. The daily output of this factory is about 1,50,000 toys per day at prices varying from 5sh. to 30sh. net for a gross.

WORK IN SWITZERLAND.

Though my work here was only for 5 days yet I was able to visit many silk loom manufacturers, industiral schools etc. I had taken a letter of introduction from Mrs. Aurelia Melograni Mari, niece of Mr. Mari to Dr. H. Korrodi, Director of Messrs. A.G. Escher Wiss & Co., and his brother Mr. H. Korridi, retired engineer. They were very kind in introducing me to the Secretary of Development of Swiss industries and Commerce. The Secretary suggested that I should visit Uzwil, Ruti, and Horgen, where I could meet and discuss with the important silk loom and silk throwing plant manufacturers.

AT UZWIL.

I paid a visit to Benningers. This firm has specialised in the manufacture of only silk looms. This is a very old firm and the silk looms manufactured by this firm are very up-to-date. Mr. Max Ruff, the Director of this firm was very kind to me and showed the workshop, the warping machine, and silk looms etc., and I learn from him that the looms manufactured by this firm is being increasingly used in England and they would be only too glad to furnish all information

information on any machinery selected by the

The firm spends a pretty decent amount in advertisement

[illegible]

Ateliers de Construction de Mécaniques, Rüti is another firm I visited. The firm also manufactures silk looms in addition to looms for wool and cotton. Schweiter at Horgen have specialised in the manufacture of silk twisting machines and appliances necessary for them.

I had unique opportunities of visiting many industrial concerns connected not only with silk but also with other industries in general and discussed on many points with the manufacturers concerned. As a result of my investigations, the industrial activities in Europe are in a very prosperous state. In Europe no industry suffers for want of enterprise, capital, efficient organisation or suitable machinery. Concerns worked on these principles are bound to succeed.

I give below certain lines of action for the development of sericulture in Mysore being ~~as~~ a result of close observation and study of the methods pursued in Continental sericulture. I am of opinion that the future of sericulture is bound to have a bright prospect if scope is given for the operation of my humble proposals.

MULBERRY CULTIVATION.

The Department has to obtain sufficient data to advise people regarding the best varieties of mulberry, economical methods of cultivation, the proper kind of manure, the benefits in grafting, the advantages of the propagation of tree mulberry etc. The only experiments conducted till now by the Department is in regard to manures. It is therefore necessary to start experiments with mulberry in all its aspects correlated with rearings to collect useful data with a view to increase leaf production and thereby the raw material, cocoons.

GRAINAGE.

The present system followed in Government Grainages also needs certain changes, not in the technique but the appliances like stands, trays, etc., which are easily liable to carry infection. The quantity of layings prepared by the Government Grainages is very

[illegible]

[illegible]

[illegible]

Trainees may

[illegible]

[illegible] ... [illegible]

[illegible] and distribution of fixed races [illegible]

[illegible] I discussed this with him on this subject. [illegible]

[illegible] point [illegible]

[illegible]

rearing stands, trays, spinning screens etc., that are necessary to conduct these rearings. If the results are encouraging the system proposed by me will be purely a Mysore system and will not be a copy of either Italian or Japanese system.

No doubt the initial cost of constructing stands trays etc., will be rather expensive when compared to appliances made of bamboo. It is desirable to have substantial and hygienic rearing appliances. In the long run these appliances will be more economical than those made of cheaper material. The Japanese use bamboo stands and trays because bamboo grown in Japan is strong, smooth, and free from insect attacks. It is otherwise with Mysore Bamboo. This system of rearing does not require the use of perforated papers, nets, or husk for changing in the last stage. Constant handling of worms also is avoided. The design of the stands and trays depends on the dimensions of the rearing room for this experiment

Using machine for chopping leaves is also an economical factor in rearing silkworms. I am in possession of a simple design for chopping machine which could be manufactured easily at a cost of about 30/-.

I should like to emphasise at this stage that sericultural conditions in the continent are very different to ours in many aspects. Sericulture i carried on by educated men who can appreciate the value of the methods and who are always on the look out for improvements. The contrary is prevailing in our state. It is high time we enlist educated

educated young men in the industry. A very feasibl method suggests itself to me. The Central Farms ar training a number of young men each year but the percentage who take to the industry and benefit by their training is regrettably low. The few meagrely educated young men who come to these institutions are not impressed with the usefulness sufficiently of the industry due to want of a systematic, scientific and an attractive system. The training should be such that the sericultural education imparted is to enable the student to realsie its usefulness and to created an interest in him by discipline, and system. Arrangements should also be made to help the beginner to start the industry. This can be done in the following way

Large plots of land about fifty acres each fit for mulberry and having irrigation facilities can be selected, and a few model-rearing houses built thereon. A group of, say, ten students can be selected to colonise there, each student investing a small capital for cultivation and appliances. The students thereby interest themselves and apply themselves industriously. As sericulture yields an almost monthly income, the student has no need to wait for a long time for returns. It will induce other young men to take to the industry. Select plots may also be set apart for this purpose under the Irwine canal. Other facilities may also be given to suit the taste and convenience of the students such as for reeling, grainage etc.

DISINFECTANTS.

The disinfectant (Formalin) that is in use now for rearing rooms and grainages is now doubt effective but the cost is rather prohibitive. The rearers and Grainage proprietors in Italy are now using with advantage Lysoform Greggio in place of Formalin. In

In their experience it is a very good disinfectant as for rearing rooms and appliances. Hypoform is also cheap and has not got the same irritating sensation like the formalin and is sold nearly 50% cheaper than formalin. and the costs of these disinfectants at [illegible] and the quotations are as follows:-

Formalin 40% ... 5 litres 40 cents ex delivery
[illegible] ... at this godown.
Hypoform ... 2 ... 50.

can very well try this disinfectant for disinfection.

I have already referred to this section of work in my report regarding work done in Italy. The reeling industry is on a factory scale, the total number of basins employed being not less than 48 basins. The activities in this branch of agriculture may be classified under the following heads:-

1. Popularisation of the Domestic basin instead of the charka.
2. Grading of Mysore silk before export.
3. Creation of market facilities.
4. Conversion of the Government filature, Mysore into a commercial concern.

1. The Assistant Superintendent in charge of the Government Filature, Mysore is also in charge of the Reeling Section. The work in this branch has considerably increased due to the installation of several basins in various parts of the State. He is also conducting a series of demonstrations in important reeling centres with a view to popularise the domestic basin reeling. The want of sufficient executive and ministerial staff is being keenly experienced. [illegible] is [illegible] increasing [illegible]

staff of the reeling section to increase the scope of the teachers.

The excellence of a machine does not assure the quality of production. Hence it is necessary to subject the silk reeled to tests before it is exported whereby the purchaser is assured of a proper return for value paid and the use to which he can put it. Thereby he will be tempted to pay higher prices for the silk. A conditioning house is, therefore, an absolute necessity. The conditioning house will also be very useful in the matter of furnishing accurate statistics of high grade silk reeled in this State and Country [illegible] that goes out for Export, and this will also [illegible] in the Conditioning house.

5. That the [illegible] exchange in Europe influences the sale of Mysore silk and that a great demand for this product exists in India are established facts. It has been pointed out elsewhere in this report that our silk can find a favourable market in Europe on account of some of its natural qualities. The question will not be probed further here since there is a very great demand in India. Large orders for high grade silk have been time and again received but for want of sufficient quantity of a uniform quality they could not be executed.

6. The Government Filature is run almost on semi-commercial lines. I presume this concern will [illegible] prospective industrialists in this branch of sericulture as it is worked on commercial lines. [illegible] the Government encouraging this policy are as follows:-

[illegible]

[illegible] animals. Hence [illegible] of
(b) Indirect cost of capital, depreciation, etc.,
raise the cost of production [illegible].
(d) Absence of the [illegible] unit is an important
factor in the industrial concern. The
present system of purchasing cocoons
through the agents is not a satisfactory
method since only second and third class
cocoons which are inferior cocoons in
large quantities are received.
(e) Trained employees who are capable of giving
more output are now leaving [illegible] the
unprofitability of the filature [illegible].

If the filature is to be worked on sound lines it is necessary to increase the basins to ~~[illegible]~~ a suitable number (Hyderabad Domestic basins). The building in which these basins are installed should be sanitary with [illegible] roofing and good light and ventilation. The cocoons purchased should be made by an officer purely engaged in this work with head-quarters at [illegible] [illegible]. The cocoons purchased will have to be conditioned either at [illegible] or [illegible] and [illegible] only conditioned cocoons should be used. This officer should work under the orders of the officer in charge of the filature.

The cost for twelve basins and the [illegible] [illegible] for [illegible] is very prohibitive and for a larger number of ~~[illegible]~~ basins the charges will be enormous in the [illegible] [illegible]. A tube-well will be [illegible] [illegible] [illegible].

The demand for good grade silk in India is on the increase and it will not be difficult to [illegible] [illegible] our silk is good quality and [illegible] the cost of production is low.

Side by side with the improvement of silk reeling it is also necessary to improve the silk [illegible]. The quality of [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible]

[illegible] is a very good future for the manufacture of high class [illegible] in Mysore. The leading mill owners in the [illegible] all [illegible] [illegible] perfection they have lately [illegible] manufacturing them in large quantities in India at competitive prices. The opinion of the [illegible] in India is that we could manufacture very [illegible] but by [illegible] by [illegible].

OTHER INDUSTRIES. Though my study of the minor cottage industries in Europe was not sufficiently extensive for want of sufficient time, I am of opinion that, in Mysore, we have ample scope to develop the following industries:-

1. [illegible] [illegible], different sizes, underwear etc., in [illegible] machines.

2. Manufacture of wooden and metal toys may also be [illegible]. The industry is not in its infancy in [illegible]. There is scope for introducing the [illegible] of toys in Mysore.

3. [illegible] in Italy [illegible] industry which is largely in vogue is the drawing of flowers and decorative designs on silk and cotton goods. This industry requires very [illegible] requisites [illegible] and a [illegible]. This would be a very good industry [illegible] some knowledge of drawing. [illegible] method followed locally for such work. This could be improved on [illegible].

[illegible] cottage industries started in any locality, should be such that the people in the locality would be familiar with them. Above all, it is not enough only to start the industries [illegible] [illegible] and market the goods manufactured by those people at remunerative prices

Another industry that impressed me most is the manufacture of porcelain ware. India cannot boast of one good porcelain factory. It is necessary to send samples of Kaolin available locally to Germany and hav the same tested there. If the tests prove satisfactory and a good supply of Kaolin is available it is advantageous to start a factory on a modest scale.

The Secretary, British Trade Commission to develop British industries in Italy, Milan, the Secretary, German Machine Manufacturers' Association, Berlin, the Secretary, the French Chamber of Commerce, Paris, and the Secretary, Swiss Office for the development of trade have kindly promised to furnish information whenever required by us.

In conclusion, I take this opportunity to express my gratitude to the Government of Mysore for kindly giving me a second chance of study in Italy and other European countries and I would deem myself extremely fortunate if my tours contribute to the development of the premier cottage industry in Mysore.

I take this opportunity to offer my sincere thanks to the following industrial concerns and gentlemen who rendered me immense help on the Continent and India both officially and non-officially.

Sig. Washington Mari, Ascoli Piceno, Italy.
Prof. C. Acqua, Director, Silk Research Institute, A. Piceno.
Ing. Pietro Enrico Cesari Esqr., Director, Polytechnique Institute, Ascoli Piceno.
Signora Aurelia Melograni Mari.
Sig. Francesco Lira of Messrs Lira Caromi & Co., Milan.
Norman E. Platt, Pro-manager, The National Bank of New York,
Sig. Rag. Andrea Ceruzzi, Diretto Generale della Banca per il Commercio Serico e della Stagionatura Anonima, Milano.
Dr. Tartufoli Esqr., Proprietario Stabilimento Bacologico Sorelle Polimanti & Co., Milan.
Dr. Carlo Pallavadino, Direttore della Societa Esercizio Oleifici, Milan.
Mr. Edward H. Capp, Commissioner, Development of British Industries in Italy, Milan.
Dr. E.V. Lagard, Milan.
The Secretary, Seed Producers' Association, Milan.
Sig. Giulio Chiozzotto, Societa per la Filatura dei Cascami di Seta, Milan.
Dr. Guido Colombo, Direttore della R. Stazione Sperimentale per la seta, Milano.
Dr. Pigorini, Director, Silk Research Institute, Padua.
Sig. Tiberio Peretto, Stagionatura Anonima, Milano.
Sig. Guido Silvestri, Liniate Filature, Milan.
Sig. Alberto Walbiati of Campino Filature, Bergamo.
Ing. Antonio Molduzzi, Esqr., Milan.
Mr. W.H. Hatton, Messrs Brizzolesi Kempsley and Millbourn, Milan
Rag. Arturo Minazzi, Director, Button Manufacturing Co., Bergamo
Sig. Cordelio Sacchi Perito Serico, Silk Weaving Institute, Como
Secretaries, Silk Association, Silk Reelers and Throwsters' Association, Silk Weavers' Association, Italy.
President, Silk Exhibition, Turin.
Sig. Dondina Michele, Procuratore del Credito Italiano, Turin.
Sig. Pietro Scotti, Generale di Brigata, Turin.

Mr. Morel, Chabrieres Morel & Co., Lyon.
Messrs. Charloux and Berthaud, Berthaud Fils, Lyon.
Mr. Paul [illegible] Rutor, Representative, German & Swiss textile machinery, Lyon.
Messrs. William e. Wiener Inc., Silk Manufacturers, Lyon.
Mon. Edmond Jordon, Industries & Commerce Department, Paris.
Mr. Jennings, Engineer, Textile Machine Manufacturing Co., Paris.

Mr. Joseph Botkovitsch, Ingenieur, Liege (Belgium)
Mr. Fernand Bernard, Representations Industrielles, Liege.

[illegible] ;

Secretary, [illegible] Manufacturers' Association,
Berlin.
Dr. [illegible], Privatdozent an der Technischen Hochschule,
Berlin.
Dr.-Ing. [illegible], Direktor der [illegible] Privatdozent an
der Technischen Hochschule, Berlin.
Dr.-Ing. [illegible], Geschäftsführer der [illegible]
[illegible], Berlin.
[illegible] Berlin.
[illegible] Export Merchant, Chemnitz.
[illegible], Chemnitz.
[illegible], Representative of [illegible]
[illegible]
[illegible]fabrik, [illegible].

[illegible] Zurich.
[illegible]
Directors of [illegible]
The Secretary, [illegible] Zurich.
The British [illegible] Turin, [illegible], Lyon, [illegible],
and Chemnitz.

His Majesty's [illegible],
Director of Industries [illegible] Commerce, Bombay,
Secretary, Indian Chamber of Commerce, Bombay, and
[illegible]

V. M. Appadurai [illegible]
Dated, 9/12 [illegible] [illegible] Superintendent.

1

Office of the Asst. Supdt. of Sericulture
in charge of Filature and Reeling. - -
(Camp) Turin. Dated 22nd Sept. 1928.

Dear Sir,

I beg to report that I reached Venice on the [illegible] instant. and left Venice on the 18th morning and on my way to Turin, I halted in Brescia and Milan just to visit the Filature at [illegible] near Brescia. The Conditioning House and the Silk Institute were one and the same and now the Conditioning House is quite independent of the Silk Institute.

In the Institute I met my old Professors Dr. Colombo and Dr. Baroni. Dr. Baroni was kind enough to take me round the Institute, the laboratory, students trained in this Institute with a diploma of this Institute always find a job in Italy.

I came here on the 19th evening and met the British Consul and the President of the Silk Exhibition with letters of introduction kindly given to me by His Majesty's Trade Commissioner and the Italian Consul at Bombay. The British Consul in turn introduced me to the President of the Exhibition and the Silk Association of Italy. The President of the Silk Association is giving me all facilities and I am making the best use of his kindness. I am meeting the President of the Silk Association daily.

There is so much to see and study in the Exhibition besides sericulture, industries, chemical section, fine arts, agriculture, glass manufacture, food materials, are also very well represented.

In addition to these Courts, amusements and restaurants for the convenience of the visitors have also been arranged in convenient corners in the Exhibition grounds.

The place selected for the Exhibition is one of the important parks in Turin called "Valentino Park" is a beauty spot for Turin. This park is surrounded by ranges of mountains with sprinkling of buildings here and there on the slope of the hills, river Po just by the side of these range of hills. Almost all structures in the Exhibition buildings are specially constructed for the Exhibition. The materials used for these structures are [illegible] work or wood, iron, brass, and cement structures and they will be pulled out after the Exhibition.

The Textile machine manufacturing firm from Switzerland and silk manufacturers of France have also taken part in the Exhibition. The chief section of the Exhibition are the rational method of rearing silkworms, preparation of silkworm seeds, possibilities of rearing more than one crop in a year, various breeds of Italian races of cocoons, the cross breeds with Chinese [illegible], scientific appliances for separating male and female cocoons and [illegible] to prevent perforation [illegible] for all stages, and paper [illegible] for [illegible] to lay eggs, [illegible] for [illegible], reeling, twisting, and weaving [illegible] have been arranged in the [illegible].

[illegible] silk goods manufactured in Como, Turin, Milan, and [illegible] has been arranged in a very attractive manner, the [illegible] [illegible] silk [illegible] [illegible] [illegible] [illegible] [illegible]

In the Chemical section the most interesting exhibit is the machinery and the raw material required for the manufacture of artificial silk and the finished products. Here the process of chopping and the preparation of the solution etc. is now demonstrated.

The Superintendent of Sericulture, Mysore wanted me to arrange for the supply of pure Italian races of silkworm eggs, mulberry seeds, and other rearing appliances. I will attend to this when I go to Ascoli Piceno. I know Prof. Acqua, the Director of the Ascoli Piceno research and experimental station and [illegible] he will be in a position to give us some pure races.

The representative of the manufacturers of Textile machines, Messrs. Schweiter & Co., of Switzerland had kindly promised to take me to one of the important silk mills in Turin. I intend showing them the samples of our silk and if possible I will request them to weave for us Crepe de Chene, Georgettes, Taffeta, etc., with our silk and in addition I will also try through the Italian Silk Association to weave our silk in the silk weaving Institute at Como and obtain a report from them.

As regards [illegible] investigations for weighting Mysore silk I will consult the experts both in Milan and Como.

Probably I will have enough work in Turin for another week and then I intend visiting important silk centres in Italy such as Bergamo, Milan, Como, Ascoli Piceno, [illegible], and other places if necessary. Visiting these places will keep me engaged for about a fortnight.

As regards silk waste spinning, hydrogenating oils, wool and for other small industries, some of my friends advise me to visit France, Switzerland, Belgium and Germany and I ~~will~~ give below for your kind perusal and approval the places I intend visiting.

In France for about ten days visiting Lyons, and Paris.
In Switzerland for about ~~xxxx~~ ten days visiting Zurich,
Berne, and other places if necessary after going there.
In Belgium for about a week.
In Germany for about twenty days visiting Berlin, Brussels,
Leipzig, Dresden and Vienna.

If you kindly approve of my visit to these places, I beg request you to kindly obtain early orders of Government and instruct me by cable.

As regards funds required for the payment of expert opinion and other expenses I will again address you after going to Como.

I give below my address and request you to kindly send all communications to this address. The proprietor of this firm is a friend of mine and he will redirect all letters and telegrams to me.

(Sd) V. M. Appadorai Mudliar
Asst. Supdt. of Sericulture

Copy

Asst. Supdt.

[illegible] 2.

Brief report of work done by the Assistant Superintendent of Sericulture on deputation to Europe (work done in ITALY).

Time spent in Italy and places visited:- My work in Italy commenced from 14th September 1928 and continued till the 19th November 1928. During this period I was able to visit some of the important silk centres such as Brescia, Orzinuovi, Milan, Turin, Ascoli Piceno, Porto di Ascoli, Florence, Bergamo, [illegible], Como, Luino, Lecco, [illegible], and [illegible] besides other suburbs near Bergamo and Milan. I toured in these places mostly to study the recent progress made in the development of sericulture in Italy.

My work in Turin:- I availed the earliest opportunity of visiting the Exhibition at Turin and I arrived here on the 15th September 1928 and stayed in this place for twelve days, spending much of the time in the Exhibition, taking notes of what all I saw and the enquiries I made in the Silk Court. In addition to this, I was also paying visits to other Courts in the Exhibition such as the Agricultural Court, Chemical Section, Indian Court, (for India), Glass factory, Food exhibits, Glass and Porcelain [illegible] etc. In the chemical section, the machineries and other raw materials required for the manufacture of artificial silk occupied a prominent place; here I have collected more of statistical information from 1922 to 1927.

As regards other industries, I have also taken notes on some on which I thought worth while making a note and that could be eventually of some use in Mysore.

In the Silk court all branches of sericulture i.e., from rearing of silkworms to finished goods were among the exhibits. The demonstration section in silk reeling, silk twisting, silk weaving, and the attractive way in which the silk goods were displayed deserves special mention. During this period, I also interviewed the British Consul, the President of the Silk ~~[illegible]~~ Exhibition and the Secretary, Silk Association (Turin Branch) and they were very kind in giving me all help to see that I am benefitted by my visit to the Exhibition. The assistants and representatives in charge of several stalls in the Silk Court and other industries were eager to furnish all possible information. The many bulletins, leaflets and catalogues etc., collected would be of immense use to us for our future work. I hope to give more details of the Exhibition in my final report.

Work in other places:- After completing my work in Turin I proceeded to Milan, as Milan being the central place for all sericultural activities, I have made this as my head quarters and I kept moving from time to time in visiting other places mentioned above. The object with which I visited Ascoli Piceno, Porto di Ascoli, Florence, Como, and [illegible] is mostly in connection with general sericulture i.e., to have an idea of the different systems of training mulberry trees, [illegible] system of mulberry plantations and mulberry nurseries. Visiting grainages and [illegible] demonstrated in rearing silkworms. [illegible] are now [illegible] in various methods of rearing silkworms with a view to produce cocoons at a less cost. The rapid increase in the output of artificial silk each year, has hindered sericulturists to a [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible]

[illegible] which, in addition, [illegible] of the [illegible] in our sowing operations in order to increase the [illegible] seeds. [illegible] observations [illegible] of Italian agriculture, for the very fact that [illegible] ploughing when [illegible] and strawberry lines, [illegible] has not [illegible] agriculturists [illegible] It [illegible] belief in agriculture and [illegible] to increase the production [illegible] near future. I also visited the Government [illegible] research work in which they [illegible] engaged. [illegible] to give me some description of [illegible] for our use. [illegible] to test [illegible] its [illegible] a good quantity [illegible]

I visited [illegible] with a [illegible] new [illegible] mixtures. [illegible] visited [illegible] of them [illegible] separately. [illegible] existence for a very long time, [illegible] their fortune in the [illegible] the modern [illegible] to sell their [illegible] to develop [illegible] in all the [illegible]

The other [illegible] visited [illegible] type. [illegible] and [illegible] two types [illegible] in addition [illegible] and the other [illegible] recent Italian invention called "[illegible]" [illegible] machine. The inventors of this [illegible] machine are three [illegible] and the name [illegible] is a joint name of the inventors [illegible], the first two letters [illegible].

[illegible] this type with [illegible] Unfortunately [illegible] set of [illegible] twenty [illegible] colour, [illegible] in fact, the [illegible] a single [illegible] in reality a great achievement. [illegible] to give me photographs, etc., of this machine.

[illegible] — [illegible]

sections of the Institute. [illegible] students from all parts of Europe. Students willing to undergo training are expected to know either French or Italian language to follow the lectures and practical instructions given to them.

I also requested the Secretary to arrange for my visits to some of the private weaving establishments and for he expressed his inability to comply with my request because each individual firm has professional secrets in manufacturing special kinds of fabrics and they, as a rule, do not like the idea of strangers visiting their factories. On his suggestion I paid a visit to [illegible] factory about fifteen miles from Como. This factory manufactures only silk looms and other accessories required for silk weaving. I learn from the Director of this factory that almost all the silk weaving establishments in Como, and other weaving centres in Italy use their looms. They are now popularising their looms also in India, and they have already sold 2[illegible]0 looms through Messrs. Giacomo Jusher & Co., Bombay. The Director of this factory is even prepared to have direct dealings with us for all our requirements.

Visit to ~~[illegible]~~ Luino - To visit [illegible]'s factory. Vide my letter dated [illegible] November 1923.

Work at Milan.- My enquiries in Milan are of a general nature. During my visits I had occasions to visit Dr. Colombo several times to consult him on important technical points. I was also taken to the Silk Conditioning House to observe the nature [illegible] of work in [illegible]. The [illegible], City Bank of New York, Milan Branch introduced me to the Directors, Societa per la Filatura dei Cascami di Seta, and [illegible] importing Co., of Milan.

Societa per la Filatura dei Cascami di Seta, import very large quantities of silkwaste (Indian) through [illegible] Moris & Co., Messrs. Volkart Bros., and other firms in [illegible]. I had a talk with the Director regarding our silkwaste. The following are the terms under which this firm is prepared to purchase our waste.

1. The firm is prepared to purchase any quantity both filature and charka waste.
2. On receipt of a lot of 10 to 12 kilogrammes the firm would be in a position to inform us the rate at which they are prepared to purchase.
3. Half the quantity of the sample sent will be retained by the firm and the other half will be returned to us just for our guidance to see that our supply is according to the sample sent.
4. Their terms of payment is at ninety days sight.
5. Quantity and time required for the supply to be fixed by the supplier.
6. Their quotations for our Charka waste on [illegible] November '23 is [illegible]d per kilo.
7. The firm would be glad to inform us from time to time the quotations for silkwaste.
8. The Director expressed his willingness to have direct dealings with us, provided we assured him of a steady supply, and in that case they will not purchase any waste from other firms in India.
9. They want the waste to be despatched via [illegible] and not via Bombay and they will accept delivery either at Genoa or at Venice.
10. In regard weight, they will accept the official weight from the port where they take delivery.

I am also paying visits to the different branches of silk organisations just to have an idea of the organisation of these associations. I have also discussed the disposal of cocoons, [illegible] Milan, [illegible] samples of our silk and waste.

An Interview with the Director of the Oil-seed [illegible] Milan.- I learn from the Director that they are importing very large quantity of oil [illegible] [illegible] Nigeria, [illegible] and [illegible] India. Their terms of contract are [illegible] [illegible] Oil Seed Association, London. (2) [illegible] [illegible] tons of [illegible] [illegible] (Italy imports nearly 120 thousand tons of groundnut each year) (3) This firm is also interested in gingelly and they are prepared to consume any quantity provided the rates are [illegible] cheaper than other oil seeds. (4) [illegible] Italy imports and [illegible] consumption [illegible] about [illegible] thousand tons, this includes groundnut, gingelly, [illegible] [illegible] [illegible] another [illegible] thousand tons a year).

Visit to [illegible] Factory at [illegible].- [illegible] [illegible] button factory [illegible] the biggest button factory of Italy. The Director [illegible] kindly explained to me all the [illegible] [illegible] button manufacture [illegible] [illegible] [illegible] [illegible] material used [illegible] grown in South America and some of the Italian colonies in [illegible] [illegible] [illegible] lires per quintal [illegible] The daily output of this factory is about 12,000 dozens.

As regards my suggestions for the development of sericulture in Mysore, as a result of my deputation to Italy, after a careful study of the present position of the industry in general and the lines on which the Italians are now developing their industry and the main conclusions I have arrived at are as follows:

(1) [illegible] to carry out [illegible] programme [illegible] (to increase our production of cocoons).
Placing the land [illegible] in non-sericultural areas to [illegible] two nurseries. Arrangements will have to be made to have mulberry nurseries in all the [illegible] to meet the requirements of people in their [illegible] [illegible] [illegible] [illegible] [illegible]
(2) [illegible] educated young men to take to cocoon growing. Just now young men did not come forward because it is not remunerative to [illegible] the cost of production is high. [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] time and labour [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] the value [illegible] [illegible] [illegible] the output of our [illegible]

No doubt our race has some exceptional qualities but comparing to the costly system of our bush mulberry cultivation the yield is not very satisfactory. I do not mean to say that we should give up the race and at the same time we should also increase the production of hybrid layings. I am not in a position to say anything in regard to the new races already fixed in Mysore, as we have not till now distributed these layings on a large scale in all the Sericultural districts to know the average yield of these for certain number of layings. It is not always safe to come to conclusions on the basis of the results obtained in small experiments and rearings conducted by few selected rearers in a particular area. In addition to this the Department should also arrange to rear some of the higher yielding varieties of Italian races during the most favourable season of the year for purposes of crossing with Mysore. The first generation gives a very good result and these worms are very robust and it is very easy for our rearers to rear these worms. This is also one of the ways to increase our production.

Introduction of suitable scales for weighing cocoons and silk is a point on which we have to take early action. The present system of weighing cocoons and silk is not for the well being of the industry. The rearers and reelers are not getting their proper returns for their troubles.

Improvements in silk reeling:- We are already taking steps in this direction and our progress is also slow. Our attempt should be to create more interest for reelers to take to the use of Domestic Basins on a large scale. Just now the cost of basins are high and that prevents our reelers to take to the use of these basins. We will have to attempt to manufacture these basins at a less cost to attract reelers to go in for these basins.

[illegible] and control over production:- If the silk reeled is of a good quality marketting is also easy. Of course, the cost of production on the Domestic basin is very much less. The reelers ought to be in a position to produce silk within the limits of reeling rates. The Department should have a proper control in regard to quality over the production of high grade silk in Mysore before it is marketted. I think a Conditioning House on the modest scale is very necessary to have a proper check over our high grade silks. In this connection I think Mr. Kari has already addressed you in regard to the quality of silk reeled by private reeling establishments. It is easy to spoil silk even with the aid of good machines. The ambition of private reelers is to increase output and thereby spoil the quality. In all the Sericultural countries the quality is being controlled by these conditioning houses before it is marketted and so a conditioning House for Mysore on a modest scale will serve very useful purpose and also in grading our production etc.

The Silk Association should have branch associations for mulberry growers, rearers, reelers, throwsters, and weavers.

Our silk weaving also requires more improvements in the way of introducing very efficient power looms to utilize locally the high grade silks for the manufacture of fine fabrics.

The conclusions of most of this report may not appear quite new and the same ideas I have already submitted in my Home India report, note for the introduction of the production of hybrid layings, and a note for the organisation of an All India Silk Weaving Competition and finished silk goods (woven with Mysore silk) with a view to popularise our silken all weaving centres in India. I think these are the main principles with which real progress could be achieved. I believe by this time the Special Silk Committee must have concluded ~~[illegible]~~ their labours and submitted a final report to Government with their suggestions as to the lines on which the work will have to be carried on for the development of sericulture in Mysore.

[illegible]
Dated 15-[illegible]

(Sd.) V. M. Appadorai Moodliar
Asst. Supdt. of Sericulture.

"Copy"
V. M. Appadorai Moodliar
Asst. Supdt.

ANNEXURE 3

Ascoli Piceno,
Dated 5-12-'28.

Dear Mr. Appadorai;

I received your kind card of Milan, dated from there on the 27-11-28 and am waiting further informations in connection with the tests that are being made on raw silk reeled in the Mysore Government Filature. But up till now I received a few summary informations showing that the behaviour of Mysore Government silk was much better than that of Mysore silk reeled by private people. I wrote at once to Mr. Ranganatha Rao Saheb, pointing out the advantages coming from the adoption of rational systems in sericulture. I congratulate with you for the results already achieved in the Government Filature and I am sure that after this new visit to Europe you will be able to introduce many further improvements.

I asked to the Director of Industries & Commerce to give me the agency for the sale in Europe of Mysore Government raw silk and hope that he will agree with my request. So I will be put in a position as to collaborate with your Government in improving and extending sericulture in the State, and all the industries connected with it.

I transcribe hereunder the letter I received from Mr. Ranganatha Rao Saheb. It is a pure thanking letter.

In your coming again to Ascoli we shall write again to Mr. Ranganatha Rao Saheb giving him a detailed account of your deputation work and you understand that I am interested to show now in Europe, Mysore may find better opportunity than in Japan for improving its sericulture. For this reason I have prepared and translated in English the continuation of my article in the "L'Industria Bacologica". I have also prepared a model of hand-loom for you; mulberry and silkworm seed will also be ready and a very effective plan for quickly improve and extend sericulture in Mysore will be discussed together with you. As it regards Morus Pendula it is better you take with you some plants because generally the different ~~[illegible]~~ varieties of mulberry are not exactly reproduced by seed. I may procure to you some plants.

Hoping ~~[illegible]~~ you are already put in a position as to perform your journey in France, Switzerland, Germany, Belgium, I wish you a good voyage. My wife and my daughters with me convey to you our hearty salutations.

Yours sincerely,
(SD) [illegible] Hari.

Please convey my compliments to Mr. [illegible]

"COPY"

C. M. Appadhurai
Asst. Director of Sericulture.

ENCLOSURE 4.

A S C O L I   P I C E N O.
Dated. 10th November 1

Dear Mr. Appadhorai,

I regularly recieved your last letter dated 29th October, but as you wrote to me that you were waiting within two or thr days for a cable authorising you to proceed to France, Switzerland etc., I feared that a letter that I would have addressed to you in Milan would not more found you there and theref I was waiting for your new address. Therefore will you kindl excuse me if I have not replied you before to-day.

Yesterday only I received the results of the tests made on the small skeins of raw silk that I received from Mila and I translate it below:-

Of the ten skeins sent for examination it may be said the following. I consider each group of five skeins separately because they are quite different owing to the way in which the were reeled or for the material (Cocoons) employed. For being more clear I will indicate by group A. that composed by th smallest skeins and by group B. the other one (Domestic basin silk).

GROUP A:- In its general appearance the silk is straw coloured with an accentuated tendency to yellowish green to the b ton. The silk is woody and rugged specially for the thickes deniers and of very bad appearance. It do not show any resistence to the friction of the comb of the weaving machinery. But not all the skeins of this type showed the same characters one skein was much more soft and doughy. The silk is dirty a of irregular denier. Only for winding bobbin is sufficient. In general, it does not show any appreciable characters. Thi judgement is summary and superficial, for want of homogeneous material for testing.

GROUP B:- For its appearance and colour it is similar to th former but it looks pretty well. Good shining and sufficient composition. It may be ranged in the category of the common whitish silk but having many defects in the point~~ing~~ of reelin The denier is rather irregular with thin portions. in the smallest deniers. The thread is vitreous and very little resisten (This is the characteristic of the white cocoons of the East. This defect is due specially to the way of drying cocoons made often at high temperatures for accelerating stifling.) The thread is dirty but more hairy. The impurities are met particularly where the threads of cocoons are attached , as it sc also by more than one cocoons together for the thickest denier Therefore it is a defect of reeling or of bad unfolding of the cocoons, because they are not sufficiently pressed in the Batteuses with the aim of having an higher output of silk by reeling even if the cocoons are insufficiently or badly purged in the basin. It is suggested when raw silk has to be produced for Europe and when the cost of reeling will permit i to produce thin deniers under 13/15 for doubling or titles for looms but the silk must be redevidata (Rereeled). My opinion is that when the raw silk is so impure cannot easily find a direct employment in looms without prejudice. The winding bobbin is good. The breakings are due almost to the thread stitched. It is opportune the employment in small dos of white scrolina, the winder of nearly 140 centimetres is not used by us (We use nearly from 150 to 160 centimetres). I am enclosing herewith the bulleting of the tests made on the silk.

The big pack of silk was given for making test in weavin and hope to have the results in a short time. A letter that I wrote giving instructions for sending raw silk [illegible] to Como was not received, therefore I will write again to-day. I did not write to the Director of Industries & Commerce in Mysore because I was waiting for the results of tests. I will write to Mr. Rama Rao enclosing the letter of the Director of Industries. Till now I have not received any news from Mysore, but if something will reach me I will communicate with you.

In hurry I send you the best feeling of all of us. Excuse the bad writing.

Yours sincerely,
(SD) V. Mari.

"C O P Y"

V. M. [illegible]
Asst. Supdt. of Sericulture.

[illegible] 5

[illegible]
Dated, 14th [illegible] 1928.

Dear Mr. [illegible],

I had already asked for mulberry seed [illegible] I will change with [illegible]. For [illegible] [illegible] [illegible] you will be here I may make a very useful project for improving your silk which need much improvement for being [illegible] produced in our market. If you will follow my instruction I am sure that Mysore in a few years time may compete with Italy and even with Japan for the quantity of silk produced at a cheap cost. Lately I received the following report [illegible] Mysore Government silk and now I am waiting [illegible] samples of cloth weaved with it.

[illegible] 16/18 [illegible]

The [illegible] of silk [illegible] of [illegible] metres in a minute [illegible].

Titel (Denier).

The tests have furnished the following deniers:-

Denier [illegible] 16.0, 16, 16.6, 16.4, 16.4, 16.6, 16.8, 17, 17, 17.[illegible], 17.[illegible], 17.3, 17.3, 17.5, 17.5, 17.8, 17.8, 17.8, 17.9, 17.9, 17.9, 18.[illegible], 18.8, 18.[illegible], 18.[illegible], 18.8, 19.1, [illegible], [illegible], and the average denier is 17.4.

According to the results of these tests the silk must be judged of a sufficiently regular denier (Titolo); the uses of the market (Usi [illegible] di piazza) for raw silk extra classic or first and second quality, for the deniers of 12/13 and 16/17 a tolerance of variation of [illegible] deniers.

[illegible] TESTS.

Elasticity in millimetres.	Tenacity in grms.	Denier of the thread tested.	Tenacity for each Denier in grms.
225.[illegible]	64.02	17.[illegible]	[illegible]

It appears from these tests that the Dinamometric qualities are satisfactory.

[illegible] to the [illegible] table.

The silk resulted very [illegible] on [illegible]00 metres of thread [illegible] [illegible] a total of [illegible] defects.

Loss in degumming (Degommaggio).

The raw silk diminished in weight by 2[illegible].0[illegible] in [illegible].

TITOLO (DENIER) 20/22

The incannaggio executed to the speed of 75 metres in a minute gave satisfactory results.

Denier legal:

16.0, 17, 18.8, 18.9, 19, 19.3, 19.4, 19.8, 20.7, 20.7, 20.7, 20.8, 20.8, 21.1, 21.3, 21.4, 21.5, 21.6, 21.7, 22, 22.2, 22.3, 22.3, 22.5, 22.8, 22.9, 22.9, 23.2, 23.5.

Average denier 21.05.

The silk must be judged of regular titolo the uses of the markets (Gli usi di piazza) admitted for raw silk of 19/21 to 24/26 denier for the above quality a tolerance of extension between extremes by 7 deniers included.

DINAMOMETRIC TESTS.

Elasticity in millimetres.	Tenacity in Grms.	Titolo of the thread tested.	Tenacity for each denier in grams.
240.24	63.82	19.88	3.69

It appears from these tests that the dinamometric qualities of the silk are satisfactory.

Examination of silk on the [illegible]

To this test the silk resulted enormously; on 2500 metres of thread reeled it was found a total of 1694 defects.

Loss in degumming (Decreusage).

In this raw silk gave a loss of 24.35% in weight.

Both raw silk examined seemed to us to be of Canton type Filature silk.

Yours sincerely,
(Sd) A. Lari.

COPY

Asst. Supdt. of Sericulture.

[illegible] 6.

[illegible]
[illegible] 20th December [illegible]

[illegible] dear Mr. Appadorai,

I am in receipt of your postcard from Lyon and [illegible] and of your letters from Paris, and I thank you for [illegible].

I was absent from [illegible] for a fortnight and returned [illegible] only on the 20th. [illegible] unable to write to you [illegible].

I received the samples of silk cloth [illegible] with [illegible] silk. It is seen from the [illegible] some [illegible] silk which [illegible] be [illegible] in [illegible] for [illegible] in [illegible].

If you go to see [illegible] Dr. [illegible] will give you [illegible] information about the [illegible] made with [illegible] silk. I [illegible] him [illegible] the price of [illegible] for [illegible] and [illegible] able to provide [illegible]. But if you [illegible] I am [illegible] ~~[illegible]~~ [illegible] Brothers [illegible] have one of the most important horticultural [illegible], and [illegible] specialized in [illegible] culture.

Probably I may be out of [illegible] for a few days during [illegible] and if [illegible] return [illegible] provide with silk and good [illegible] give you all the directions for successful rearing in Europe. [illegible] I shall give you [illegible] countries [illegible] organised [illegible].

I [illegible] you [illegible] [illegible] soon. [illegible] my hurry.

Yours sincerely,
(Sd.) [illegible]

opy

A. M. Appadhorai

28

Issue & Submit.

Appendix F G—1

SUBJECT..

Diary No. of letter replied to..................

and Revenue Secretariat

( )

the 192

Date of issue 30/8/28

Signed by Mr S. N. Menon

to the Dir. of I.S.

List of enclosures..................

Copied by..................

Examined by..................

Section Servi

File No. 1-28

Serial No. 11

No. D 9980

To

The Supdt.

Govt. Printing

Sir,

I am directed to request you to be so good as to print and supply 200 copies of the Report on the work done by Mr. M. [illegible] during his deputation to Europe ~~the Continent~~. The press copy of the report may be kindly obtained from the Dir. of I.S. direct.

I have &c.

~~S.O.~~
~~20/8~~

For Secy.

D 9981 over

Copy

30/8/28

is forwarded with complts.
to the Dir. of Indy. for information
with refce. to his letter No. Dy 2143-27
of 19th March 1929 with the request Sl. 10.
that 5 printed copies of the Report
may be sent to Govt. for Record.

By order

For W Secy

Iss-27.3.29.

Appendix F G—1

29

SUBJECT..

Section ~~I.&C.~~ Secr

File No. 1-28

Serial No.

Diary No. of letter replied to..............................

No. [illegible]

General and Revenue Secretariat

(   )

the   *192*

Date of issue..............................

Signed by ....

List of enclosures..............................

Copied by..............................

Examined by..............................

To

The Dir: of I.&C.

Sir,

I am directed to invite your kind attention to O.M. No. D-9981 Sec. 1-28 dt. 30th March 1929 re: report of work done by Mr. V. M. A. Mudaliar during his deputation to Europe and to request you to be so good as to submit early ~~that~~ printed copies of this report ~~may be sent early~~, with your remarks thereon.

I have &c.

over

Cln
4.6.29

J.C. W. Lee

WD 0399—GPB—20,000—18-9-28

V.

kg. 1.6.29.

Appendix F G—1

SUBJECT

Section Ser.
File No. 1-28
Serial No. 15

No. D 2470

Diary No. of letter replied to

General and Revenue Secretariat
( )
the 192

Date of issue 27/8/29

Signed by Mr S. V. [illegible]

List of enclosures

Copied by

Examined by

To

The Dir. of I. P.

Sir,

I am directed to invite your attention to this office letter No. D.12983 Ser. 1.28 d/7/6/29 calling for the printed report of the work done by Mr. V. M. A. Mudaliar during his deputation to Europe and to request that the same may be sent very early, with your remarks.

~~your~~ I have

Eug 27/8
for Secr.

WD 063—GPB—20,000—1-8-29

15

Seri 1-28-16.

31

TELEGRAPHIC ADDRESS :— " INDUSCOM. "

In reply, please refer to
No. D4-2643/27-28

GOVERNMENT OF MYSORE.

DEPARTMENT OF INDUSTRIES AND COMMERCE.

OFFICE OF THE DIRECTOR,

Subt one copy to the 1st Member & send me one copy
11.9.29

Dated, Bangalore, 10th Septr 1929.

FROM

C. RANGANATHA RAO SAHIB, ESQ., B.A., B.L.,
Director of Industries and Commerce in Mysore,
(Bangalore, India.)

TO

N. Rama Rao, Esq., B.A., B.L.,
Secretary to the Government of Mysore,
Development Departments, Bangalore.

GEN. & REV. SECRETARIAT
2333
12 SEP 1929
DEVELOPMENT BRANCH

SIR,

I have the honor to forward herewith two copies of the printed report prepared by Mr. V. M. Appadore Mudaliar, Assistant Superintendent of Sericulture, embodying the results of the enquiries made by him during his recent deputation to Europe. Mr. Appadore Mudaliar was deputed primarily to visit the Silk Exhibition held at Turin during the year 1928 with a view to acquaint himself with the recent developments in the Silk Industry in Italy and incidentally to visit other countries in Europe for obtaining information regarding the advances made in the allied cottage industries. The report does not contain much information in regard to the lessons that we, in Mysore, may draw in regard to the cultivation of Mulberry and rearing of Silk Worms in -- Europe. The references made in the report to the ambition entertained by Mr. Washington Mari, our former Sericultural Expert, of increasing the number of cocoon crops, does not seem to merit serious consideration. We may, however, await the result of the experiments to see how far they are useful for applicability in Mysore. The Assistant Superintendent has obtained for trial in Mysore the eggs of two Italian races of the Silk - Worms viz., Giallo Indigeno and Giallo Spherica, which are being reared experimentally in our farms.

The report contains good deal of information regarding the scientific appliances used for testing silk and it is desirable that the -- present equipment of the Mysore Filature should be increased by the -

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the addition of at least two appliances viz., 1) for testing the cleanliness of the silk by means of a black-board, and 2) an Electric oven for testing the moisture in our silk. Separate proposals will be submitted to Government in regard to this matter.

may be awaited

3 It would also be desirable to purchase a machine for stifling cocoons to which a reference is made in page 4 of the report of Mr. Appadore Mudaliar. The machine is reported to be capable of stifling 700 to 800 Kilos of silk in 18 hours and is stated to cost about 7,500 Lira or about Rs.1,080/-. Experiments are now being made in the Filature for constructing an electric oven. It is however desirable to purchase a machine which has been tried and is actually in use such as the one referred to by Mr. Appadore Mudaliar.

5

For orders

4 6 The Assistant Superintendent of Sericulture refers to a simple machine for crushing moths. He has been requested to prepare this and other apparatus which he thinks can be locally made and exhibit them at the ensuing Exhibition in Mysore.

5 7 The Superintendent of Sericulture will also be requested to try the new disinfectant Lysoform Greggio which is reported to be largely in use in the rearing rooms and grainages in Italy. If it proves to have all the advantages claimed for it, it may be substituted for Formalin in our rearing rooms.

6 8 Mr. Appadore Mudaliar emphasises the need for the grading of the Mysore Silk before it is exported from the State. This is a very important matter and it is desirable that immediate action should be taken to encourage reelers to grade their silk. The Mysore Silk Filature is now exporting a part of its production to a leading silk manufacturer in Calcutta. The silk is guaranteed to stand certain tests and these tests are now uniformly applied to all the silk manufactured and sold by the Mysore Filature. It would be desirable to encourage the reelers of silk in the Mysore Domestic Basins to send samples of their silk for test in the Filature. A nominal fee may be charged by the Filature for this service. The large producers of silk reeled in the indigenous Charka will also be requested to send their samples for test in the Government Filature. I shall discuss this subject

33

with the Mysore Central Silk Association and if this experiment should succeed with their co-operation, a useful beginning will have been made towards the grading of Mysore Silk.

7 Mr. Appadore Mudaliar makes special reference in his report towards the unsuitability of the Filature Building, the smallness of the plant, the high cost at which the present plant has been valued and also makes certain suggestions in regard to the purchase of cocoons. Orders of Government have recently been issued for writing down the cost of the building and it is contemplated to shift the Filature building to a more suitable place. The Filature has recently been extended by 10 basins. It is however desirable that the Filature should be further extended in order to meet fully the overhead charges incurred on establishment. I fully agree with the remarks of Sir Alfred Chatterton in his note on "Sericulture and Silk" in regard to the proper size of the Filature plant. He says "The criterion, as to the size of the filature, should be the number of basins that one Superintendent can properly control having regard to the fact that a good deal of training work must necessarily be carried on and that for some years to come, apprentices learning reeling will bulk largely amongst the staff. Ultimately, the Government Filature must run as a commercial proposition, but before that stage is reached, it will pass through a period of deficits due to cost of training work". The demand for the Filature silk is now so great that it cannot be met with the existing plant. The experiments made last year with the co-operation of the local throwing factory have been so successful and there is now such a large demand for our silk that it would be a pitiful waste of opportunity if we should not extend our plant and take full advantage of the increased demand. With a view to meet the increasing demand for domestic basins, attempts are now being made to manufacture them in the Kolar District Workshop in addition to the Chamarajendra Technical Institute.

8 Mr. Appadore Mudaliar refers in his report to the samples of silk cloth that he got manufactured out of Mysore raw silk and the good prospects that exist at present for making high class fabrics from

from Mysore silk. As a result of his deputation enquiries have been made for the latest type of weaving plant for installation in the Government Weaving Factory. I have also submitted a separate reference to Government in regard to this matter. The report of Mr. Appadore Mudaliar shows that the future before the silk industry 10 is full of promise if certain essential precautions are taken to grade up our silk and it is utilised in making the highest quality of fabrics for which it is suited with the aid of the latest type of weaving plant.

I have the honor to be,
Sir,
Your most obedient servant,
C Ranganatha Rao Sahib
(CRS-USC) Director.
DS

35

REPORT OF WORK DONE BY THE ASSISTANT SUPERINTENDENT OF SERICULTURE, MYSORE, DURING THE DEPUTATION ON THE CONTINENT, DURING THE YEAR 1928-29.

WD 1608—GBPM—300—25-7-29.

DETAILED REPORT

Of work done by the Assistant Superintendent of Sericulture, Mysore, during his Deputation on the Continent.

INTRODUCTION.

The Director of Industries and Commerce in Mysore proposed the deputation of an Officer of the Department of Sericulture to the International Silk Exhibition at Turin in view of its importance and was pleased to recommend me for this deputation.

The benign Government appreciated the Director's proposal and pointed out it was very essential that the Sericultural Department should lose no opportunity of keeping in touch with the most recent developments of this industry elsewhere and was pleased to sanction my deputation in their order No. D 1471-2—Seri. 1-28-26, dated 4th August 1928, with instructions that I should take samples of cocoons and raw silk of all grades reeled both in Filature and the Domestic basin.

The Director of Industries and Commerce prepared a note on the particulars I should study.

I received the Government Order sanctioning my deputation on the 7th August 1928 and I immediately made arrangements to collect necessary samples of raw silk in different deniers. As per letter No. 882, dated 11th August 1928, from the Superintendent of Sericulture, I handed over charge of my Office, Filature Section, to the Filature Assistant and General Reeling Section to the Filature Mechanic on 20th August 1928.

I left Mysore on 22nd August 1928 for Bangalore and halted there for three days just to pay my respects to the Members of Council, Secretary to Government, Development Departments, and also to obtain letters of introduction and further instructions from the Director regarding my work in Europe.

I left Bangalore on the 25th August 1928 by Poona Mail to Bombay with letters of introduction given to me by the Director to His Magesty's Trade Commissioner, Bombay, the Director of Industries and Commerce in Bombay, Secretary, Indian Chamber of Commerce, Bombay, and the Italian Consul in Bombay. I reached Bombay on the 27th noon and met the Director of Industries, His Majesty's Trade Commissioner, Secretary, Chamber of Commerce and the Italian Consul.

The Secretary, Chamber of Commerce, and the Director of Industries and Commerce introduced me to the Italian, French, and German Consuls, at Bombay. His Majesty's Trade Commissioner was kind enough to give letters of introduction to the British Consuls in Italy, France, Germany, and Switzerland. The Italian Consul at Bombay was immensely glad to see that an Indian Officer was proceeding to attend an Exhibition of this kind and gave me letters of introduction to the Captain of the S. S. Pilsna and President of the Silk Exhibition.

I sailed from Bombay to Venice on the 29th August 1928 noon by S. S. Pilsna with nearly 150 Indian students from all parts of India going for higher studies mostly to England and some to Germany.

Though the period of deputation as per Government Order quoted above was for about two months including Voyage, it was further extended by two months, as per Government Order No. D 4928-29—Seri. 55-28-3, dated 10th November 1928, to enable me to visit Switzerland, Germany, France and Belgium with a view to gather information pertaining to silk and other industries in those countries. Considering the countries that I had to visit the time at my disposal was too short ; the sanctioned period was exceeded by twelve days by the time

I completed my tours in the Continent. I was able to return to Italy only on the 6th January 1929 and stayed in Italy till the 18th January 1929 to catch the earliest steamer sailing to India.

PERIOD OF DEPUTATION.

The period of deputation was from 22nd August 1928 to 6th February 1929. The following are the details of time spent including voyage, journey in train, etc.,:—

22-8-1928 to 28-8-1928	.. Journey to Bangalore and Bombay including halts at Bangalore and Bombay.
29-8-1928 to 14- 9-1928	.. On-voyage (Bombay to Venice).
15-9-1928 to 29-11-1928	.. Stay in Italy.
30-11-1928 to 6-1-1929	.. Tours in France, Belgium, Switzerland and Germany.
7-1-1929 to 18-1-1929	.. Stay in Italy.
19-1-1929 to 4-2-1929	.. Return Voyage from Venice to Bombay.
5th and 6th February 1929	in train from Bombay to Bangalore.

CHARGE.

On the 7th February 1929 I reported to duty to the Director of Industries and Commerce in Mysore at Bangalore and after availing three days casual leave from the 8th instant returned to Mysore and received charge of my Office from Mr. H. S. Venkata Rao on the 12th February 1929.

PLACES VISITED.

I was able to visit in Italy Brescia, Orzinuovi, Milan, Ascoli Piceno, Portodi Ascoli, Florence, Turin, Bergamo, Campino, Como, Luino, Padua, Abnu, Liniate, Chuidino; in France, Lyons, and Paris; in Belgium Brussels, Antwerp, and Liege; in Germany, Berlin, Leipzig, Chemnitz, and Nuremberg; and in Switzerland Zurich, Uzwil, Rüti, and Horgen.

During the period of my stay for two months and 26 days in Italy, I had an occasion to make a careful study mostly of the recent developments of Silk Industry in Italy and other industries such as button and glass manufacture, the details of which I have already submitted in my report dated 12th December 1928 from Liege. In continuation, I wish to add some more details collected in the Exhibition, etc., that did not find a place in the said report.

? not recd. pp. 18-23?

Rearing Section in the International Silk Exhibition at Turin.—In the rearing section, different systems of rearings adopted in Italy were part of the exhibits. They were System Lombardy and Veneto. There is not much difference between the two systems, the only one being in size of trays and stands to suit local conditions.

System Cavallone Fruilano.—In this system, unlike the ordinary rectangular trays and stands, the design of the stand is such as to accommodate worms on a wooden framework shaped like a gabled roof with rafters at equal intervals and reapers one inch apart. At the base of the stand are two planks six inches broad, one on each side. It is possible to feed the worms with entire branches a few days after the fourth moult by placing the branches vertically on the sloping sides making the branches rest on the plank at the bottom of the stand. At the time of cleaning, fresh branches are placed on these stands. When all the worms crawl up, the old ones are removed. No nets, perforated paper, or husk is required for changing litter. There is absolutely no chance of the accumulation of excreta near the worms, as they directly fall to the ground. The worms reared in this way are considered to be very healthy as they are subjected to natural treatment and less handling. Above all, the design itself is hygienic and the circulation of fresh air helps the healthy growth of worms.

System Alker.—The framework of the rearing stands, etc., in this system consists of angle iron and the bottom of the trays are lined with wire gauze with thin meshes. The rearing stand and trays are of three different dimensions to rear the different stages. Each tray is meant to rear only a certain number of worms.

up to a certain age, the space being just enough to extend beds in the same tray till the worms reach this stage. The bigger trays are also used for mounting worms by placing circular bushes prepared in straw and thin wire. For preparing this circular bush, there is a simple appliance which can be prepared locally within Rs 10.

CHARTS.

Showing the details and methods adopted for propagating trees, Chapaya system including pruning, grafting, and training of trees were neatly arranged on one side of the rearing hall and cocoons of various breeds such as Incrocia Poligiallo, Giallo, Indigeno, Spherico Roscio, Biagiallo chinese, Chinese Oro, Bianco Giallo, Giallo indigeno, Chinese Bianco, Giopponese Bianco, Corea Bianco, and Giopponese Bivoltene Bianco had been arranged neatly to attract the attention of the visitors. Like all other advanced Sericultural countries, Italy also has a well organised Silk Association with separate associations for seed producers, Filatures, Silk Throwsters, Dyers, and weavers. I availed the opportunity of visiting all these associations at Milan and discussed with them the object and scope of these associations. They have also presented me with their articles of association, reports, bulletins, and interesting charts for our use. The most valuable publication among the reports received by me is the report of work done for 50 years from 1877 to 1927 by the Silk Reelers' and Silk Throwsters, Association. This report will serve a very useful purpose to the Mysore Silk Association to chalk out definite lines of work for the Association.

The Seed Producer's Association and the Silk Reelers' and Throwsters' Association have also taken an active part in the Exhibition by displaying very interesting and educative exhibits with precise explanations near each exhibit.

The following are some of the details of exhibits displayed by these Associations:—

Charts.—Showing anatomical details of silk worm, pupa, and moth, scientific appliances required in grainages and rearing rooms such as *Genicrino* to separate male and female cocoons, perforating machines to perforate papers in different stages for the use of rearing rooms, floss removing machine, and automatic closing machine for closing paper cellules. This machine seals 3,600 cellules per hour.

Wax Models.—Silkworm eggs magnified in 21 stages showing the various developments from laying to hatching :—

Stage	1 to 3	No depression in the centre, colour uniform (Yellow).
,,	4	Slight depression in the centre and slight change in colour.
,,	5	Brown colour with slight depression.
,,	6	Prominent marks with pentagonal sides.
,,	7	Black spot with chocolate shade.
,,	8 to 9	Orange tint with depression.
,,	10	Black marks more prominent.
,,	11 to 13	Changes difficult to make out.
,,	14	Slightly greenish.
,,	15	Micropyle very prominent.
,,	16 to 20	Changes during incubation period.
,,	21	Hatching.

Another set of models in 12 stages showed the gradual development of embryo. On enquiry, I learnt that these models are specially prepared for the Seed Producers' Association and was not meant for sale.

DEMONSTRATION SECTION.

In this section Messrs. Battaglia & Co., exhibited all the types of basins manufactured by the Firm including their Domestic Basin. The Firm had also arranged for a reeling demonstration every day with two basins.

Messrs. Schveiter & Co., (Switzerland) exhibited their Silk Throwing demonstration with their plants.

The Weaving Factories of Como, Turin, and Lyons had arranged weaving demonstrations. Besides many weaving establishments of Turin, Como, and

Lyons had their stalls in which they arranged all their products in a very attractive style.

The Silk Conditioning House of Milan, Messrs. Spheroni & Co., Milan, had arranged a show of all their scientific appliances for testing silk, such as Serimeter, Epprovette, electric oven for conditioning silk, skeining machine, kilcha machine, denier scale, cohesion machine, etc.

Messrs. Geronnazzo & Co., Milano, manufacturers of dye stuffs, had arranged a show of the dyes manufactured by them such as Antigomma bianco, Murlialo, Gelatine, Colore rosso, Colore Murron, Antigomma giallo, Solforicianato, Colore bleu, Serolina, Morilialo, Annorludate, Newlina, etc.

The manufacturers of machines for stifling cocoons exhibited various kinds of stifling apparatus. System Pelegrino is about the best and the next best type is "Marte." This machine can condition 700 to 800 kilogrammes of cocoons in eighteen hours and the cost is about 7500 liras.

Ente Nazionale Serico, Milan, exhibited beautiful collections of silk weaving manufactured at the Silk Weaving Institute, Como, like the "Picture of Christ's Last Supper" with his twelve apostles woven in black and white. The finish is so perfect that it looks almost like print from a near view. I have purchased one specimen, the bust of the King of Italy which I sent to the Industrial Assistant on 19th February 1929. The Director of the Weaving Institute, Como, is prepared to weave for us anything on receipt of a photograph. I think it is worth while to get our Highness' bust, religious reformers like Shankaracharya, Ramanujacharya, Madhwacharya, Ramakrishna Paramahamsa, etc., woven in this Institute with our silk. If the finish and the likeness is attractive large orders may be placed. I am sure these pictures will find large sales, not only in Mysore but also in other parts of India.

Various kinds of silk piecegoods including silks for ties, charts showing various kinds of textile fibres were some of the exhibits in this stall.

SERICULTURAL STATISTICS.

(By the Istituto Centrale di Statistica.)—

Raw cocoons produced in 1927	..	50,701,974 Kgs.
Silk reeled in 1927 with Italian cocoons	..	4,626,910

Average renditta of Italian raw cocoons from 1923 to 1927.—

1923	.. .. ..	11·25 Kilogrammes for 1 Kg of raw silk.
1924	..	10·75 ,, ,, ,,
1925	..	10·90 ,, ,, ,,
1926	..	11·05 ,, ,, ,,
1927	..	10·85 ,, ,, ,,

Prices of Italian Raw silk $\frac{13}{15}$ Denier, Extra Classical during the year 1927.—

January	..	Liras 297 to 323 per Kilogramme.
February	..	,, 310 to 315 ,,
March	..	,, 300 to 309 ,,
April	..	,, 290 to 305 ,,
May	..	,, 235 to 263 ,,
June	..	,, 220 to 240 ,,
July	..	,, 217 to 225 ,,
August		,, 210 to 205 ,,
September		,, 205 to 215 ,,
October	..	,, 202 to 215 ,,
November	..	,, 200 to 205 ,,
December	..	,, 195 to 200 ,,

(92 Liras is £1 sterling).

Average price of raw silk (every ten years).—

1831	Liras 41 per Kilogramme
1841	57
1851	66
1861	78
1871	77
1881	57 ,,
1891	43 ,,

1901	,, 42	Per Kilogramme
1911	,, 42	,,
1921	,, 405	,,
1927	,, 300	,,

The value of silk exports compared with that of the total value of other exports.—

Year.	Total exports.	Silk Exports.
1916	L 3,088,279,774	484,354,017
1917	L 3,308,515,235	816,886,857
1918	L 3,344,706,719	854,406,089
1919	L 6,065,742,072	1,244,711,461
1920	L11,774,125,055	1,405,354,284
1921	L 8,275,006,061	2,274,410,611

N.B.—Total exports exclude precious metals, silk exports, artificial silk.

Italian exports and imports of silkworm Seeds.—

	Import.	Export.
1924	Ozs. 1,92,066	96,966
1925	,, 1,51,400	97,800
1926	,, 1,37,396	1,18,231
1927	,, 1,56,566	1,18,800

COCOON CROPS IN ITALY.

From 1913 to 27.

1913	40 Million Kilogrammes.
1914	49 ,,
1915	32 ,,
1916	40 ,,
1917	30 ,,
1918	28 ,,
1919	22 ,,
1920	42 ,,
1921	38 ,,
1922	41 ,,
1923	55 ,,
1924	56 ,,
1925	48 ,,
1926	43 ,,
1927	50 ,,

Quantity of silk tested in the Silk Conditioning House at Milan.

(1918—27.)

1918	2,00,000 Kilogrammes.
1919	8,00,000 ,,
1920	2,50,000 ,,
1921	3,50,000 ,,
1922	3,10,000 ,,
1923	2,00,000 ,,
1924	2,00,000 ,,
1925	6,30,000 ,,
1926	5,00,000 ,,
1927	3,00,000 ,,

MANUFACTURE OF ARTIFICIAL SILK (From 1922-27.)

(By Messrs. Snia Viscosa & Co., Turin, Italy.)

	1922	1923	1924	1925	1926	1927
United States	11	16	17	23·5	28	34
Italy	3	5	8	14	17	23·5
Great Britain	8	8	11	12	12	18
Germany	5	6·5	10·5	12	13	16
France	3	3·5	6	8	9	14·5
Olanda	1·25	1·5	2	4	6·5	8
Belgium	3	3·5	4	5	5	6
Switzerland	·75	1·5	2	2·75	3	4
Snia Viscosa & Co.	1·75	3	5·25	9·25	10·5	13

(The figures are to be read in million Kgs.)

N.B.—It can be seen from the above figures that this industry is rapidly progressing due to efficient organisation.

SILKWORM SEED

The proper season for us to get Univoltine eggs from Europe is somewhere between August and September. In that case eggs will not have been subjected to cold storage. Winter eggs removed from cold storage and sent to India under varying temperatures may not give good results. During my recent visit to Ascoli Piceno Mr. Mari was kind enough to get me two ounces of pure Italian eggs from Messrs. Sorelle Polimanti & Co., for trial here. I very much doubt the success of these rearings and so, it would be better to get seeds again in time this year for our experiments and not deduce that Italian eggs cannot thrive in Mysore.

The Proprietors of Istituto Bacologico E. Mari have presented me with twelve thermometres with hints for rearing silkworm on them. These are meant for free distribution to their clients.

From other grainages I have also received catalogues, calendars, etc.

Prof. Acqua, Director of Research Institute, Ascolo Piceno, expressed a desire to conduct experiments with our worms in his Institute. He said he would write to me at the end of March after making necessary arrangements with Italian steamship companies to preserve these cocoons in refrigerators to delay emergence of moths till it reaches Brindisi. He has also promised to give us the results of his experiments.

On the suggestion of Prof. Acqua, I have also purchased for the use of our Department one *Ginandrascopi* for finding the sex of the worms in the last stage. This is a new appliance manufactured by Mr. F. Koristka of Milan as per Prof. Acqua's instructions. This appliance is purely of scientific interest and may be used for experimental work. It may not be useful in big grainages where cross breed layings are prepared on a large scale.

Bombiteca. is one of the new rearing appliances designed by Mr. Mari for mounting worms and he has already taken a patent for it. The advantages claimed by the inventor are (1) univoltine or hybrid worms crawl up to this apparatus even without supervision. The worms find a convenient place for them to spin cocoons; (2) percentage of double cocoons are greatly minimised in this system; and the rearers are satisfied with the results obtained; (3) cocoons spun in this are properly shaped, firm in texture, the worms do not waste much silk as they find a ready place for spinning; (4) removal of cocoons is also very easy and the cocoons obtained are clean, free from urine, and excreta. Just now his cost price for each Bombiteca is 15 liras or in Indian money Rs. 2. Mr. Mari thinks it too costly, and his ambition is to reduce the cost by at least 50 per cent. He is now thinking of having a special plant to manufacture these on a large scale so that he can sell them cheap.

Mr. Mari was kind enough to present one Bombiteca for our use and he has also permitted us to prepare up to 50 for our experiments. If the experiments prove a success he wants to popularise the use of these Bombiteca in India through us. Mr. Mari is also aware that his Bombiteca will not be very useful for polyvoltines. It may do well for hybrid worms. In company with Mr. Mari I also had an occasion to visit the Polytechnic Institute, Ascoli Piceno, La scuola G. Sacconi. The Director received us kindly and showed us the various sections of the Institute such as carpentry, stone carving, clay modelling, iron castings, electric engineering, arts and other sections of the Institute. In this Institute students are trained in any of these subjects in which they are interested. By the time the student finishes his course he will be fully qualified in practical work and will not in the least be deficient professionally. He can easily eke out his livelihood and settle in life. Dignity of labour is very well impressed on the minds of students in an Institute of this kind.

The Institute is very well equipped with all machines and appliances required for the use of the students. In sculpture and model section a huge sawing machine is fitted up to saw stones required for the work.

In the metal workshop there are up-to-date machines for screw-turning, power hammering, welding with oxy-acetylene flame; in the carpentry section machine for wood carving, miscellaneous machines to manufacture high class furniture and delicate household requisites in wood; in the casting section both plain and ornamental castings, parts required for all machines such as screws, bolts, nuts, etc.

Sig. Pietro Enrico Caesari, Engineer and Director of the Institute was kind enough to present me with a curriculum of the institute and pleased to give me an idea of the system of work of these Technical institutes as follows:—

1. As a rule all these polytechnic institutes in Italy are being maintained partly by the districts and municipalities. The Italian Government contributes a grant to cover a portion of the expenditure and the pay of the staff.
2. The rich generous public give endowments to these institutions. Usually these institutes are named after the donor.
3. Such institutions are managed by a special committee consisting of the representatives of the district and the municipal administration. Government do not interfere in the internal administration of the institute.
4. Only candidates with good general qualifications are admitted to these institutions.
5. The subjects taught are not the same and it depends on the nature of the industry popular in the district or province, subjects that would help the people of that place to develop the indigenous industry are taught.
6. No scholarships are paid to students. On the contrary, the students will have to pay a nominal fee and the cost of raw material required for practical work. The students are not heavily taxed for raw materials being a nominal sum
7. All the sale proceeds of finished products are taken as receipts for the institute. Any surplus over the anticipated receipt is distributed among the staff of the respective sections
8. The ambition of Government just now is to start as many elementary technical schools as possible to train skilled labour to provide enough men for the industrial concerns.
9. For higher degrees and diplomas only people with higher educational qualifications are admitted.
10. In addition to these there are Government polytechnic institutes. . Students who come out of these institutes are preferred to students who are trained in Institutes managed by municipal and district control in recruitment to Government service.

VISIT TO GLASS FACTORIES.

I visited the Glass manufacturing Section in the Exhibition at Turin and Venice. In Venice this is a very important industry.. This is being carried on both as cottage and as a factory concern. The speciality of Venice is mostly in mosaic work, and they turn out beautiful work required for the use of ladies like brooches, pendants, etc. As a cottage industry, machines are not employed.

Glass beads are melted with a powerful blow lamp. The liquid solidifies on contact with air. One of the interesting uses to which this molten glass is employed is for the spinning of thin filaments which can be used for making ornmental shades, etc.

Experiments with Mysore raw silk of standard sizes reeled both in Domestic Basin and Mysore Filature.—I had taken with me 24 lbs. 14½ tolas of raw silk for purposes of conducting tests in all its aspects. In Turin, I have distributed some skeins of standard deniers to Silk Reelers' Association and sent to Mr. W. Mari, Ascoli Piceno, about 11 pounds and the rest to Messrs. Mira Caremi & Co., Milan, with a request to test our silk in weaving and hosiery. Mr. Mari has kindly agreed to weave both in Milan and Como through his friend Dr. Tartufoli of Milan. Messrs. Mira Caremi & Co., Milan agreed to send our silk to Germany for hosiery works.

The latter firm did not receive the knitted goods from Germany till my departure to India. I hope they will be in a position to send it soon together with the manufacturers' observations, cost, etc.

Just at the time of my departure from Italy, Mr. Mari was able to give me about 36 meters of silk cloth woven with our silk and promised to send the manufacturers' observation, cost of production, etc., as early as practicable. Copies of letters received from Mr. Mari and the Conditioning House certificates are herewith annexed.

WORK DONE IN FRANCE, BELGIUM, GERMANY AND SWITZERLAND.

The main items of work in these centres was in connection with the selection of special silk looms for the manufacture of high class silk fabrics in Mysore, to study the possibilities of manufacturing spun silk out of Mysore silkwaste, plants required for wool spinning and hydrogenating oils ; organisation and methods of manufacture adopted in cottage industries such as manufacture of buttons, toys, artistic metalware, manufacture of glassware including bangles ; manufacture of porcelain ware, cane work and other domestic industries ; methods of instruction adopted in industrial and technical schools, working hours, time devoted to general education, system of instruction and the methods adopted for keeping students in employment ; visits to the manufacturers of match machinery, pumps, oil engines, calendaring machines, etc., and trade organisations likely to be helpful in furnishing commercial intelligence whenever required.

I toured in these places for 38 days, nine days in France visiting Lyons and Paris, eight days in Belgium visiting Brussels, Antwerp and Liege, fourteen days in Germany visiting Berlin, Leipzig, Chemnitz and Nuremburg, and five days in Switzerland visiting Zurich, Uzwil, Ruti, and Horgen.

Work in Lyons.—Mr. H. A. Ford, the British Consul at Lyons, was very kind in suggesting the most important industrial concerns that may be visited in Lyons. Among the names suggested were Messrs. Chabrieres Morel & Co., Lyons and Berthaud Fils, Wellorbonne. Lyons is noted more for textile industries specially silk weaving and gold thread manufacture.

I met Mr. Morel, one of the partners of Messrs. Chabrieres Morel & Co. He expressed a desire to renew their agency for Mysore silk. I gave Mr. Morel to understand that the demand for high grade silk in India is increasing and that we are not very keen in renewing our business in France until the rate of exchange is stabilised and good rates assured. Mr. Morel kindly agreed to translate all accounts sent by him in French on receipt of copies of accounts sent by him till now.

I met both Messrs. Charleux and Berthaud and requested them to furnish estimates for a throwing mill of 192 spindles, scientific appliances required for testing raw silk, and for twenty-four basins for Mr. F. L. Silva of Bangalore.

I also placed an order with the firm for some spare parts needed for Government Filature at a cost not exceeding Rs. 200.

Visit to Silk Conditioning House, Lyons.—Mr. Testinoier, the Director of the Conditioning House, was kind enough to explain to me the nature of work of the said House. The Lyons Conditioning House is a very old institution in Europe, established nearly 120 years ago.

DETAILS OF SILK TESTED IN LYONS CONDITIONING HOUSE.

(From 1805-1910.)

From 1805 to 1820	1,18,0000	Kgs. of raw silk.
1821 to 1830	1.08,5000	,,
1831 to 1840	1,37,0000	,,
1841 to 1850	3,11,0000	,,
1851 to 1860	5,28,1000	,,
1861 to 1870	5,06,2000	,,
1871 to 1880	8,21,7000	,,
1881 to 1890	9,84,5000	,,
1891 to 1900	12,52,2000	,,
1901 to 1910	14,65,0000	,,

This shows that the textile manufacturers do not have any direct dealings in purchasing raw silk from the Filature owners. All the transactions are carried through the Conditioning Houses after the silk is tested and certificates issued regarding the quality, etc.

Mr. Paul W. Suter is an agent for all Swiss and German textile machines in France. He is very popular among the silk weaving and gold thread manufacturers of Lyons. I tried through him to visit one of the Gold Thread Factories. In spite of his influence he could not succeed in arranging for my visit. French manufacturers are very particular in not allowing Indians to visit the factories. France was once supplying all the gold thread required for India. But now the export of gold thread to India from France is gradually decreasing due to the fact that many weaving centres in India also manufacture gold thread. Indian manufacturers admit that the finish is not so good as French gold thread. I presume it is a question of time to attain that perfection.

Mr. Paul W. Suter was very kind in giving me addresses of textile machine manufacturers that I have to visit in Switzerland, Germany, Paris and also gave his catalogues and others for silk looms and scientific appliances for testing finished fabrics.

Messrs. William E. Wiener In Fabrique de soieries Hte nouveaute, Lyons.—This factory is specialised in the manufacture of mixed fabrics with lace and silk.

The Director on a special request of the British Consul kindly showed me the fabrics manufactured by them. The factory uses only Chinese and French silks of 13/15 and 16/18 denier. The following materials are used for the manufacture of special fabrics noted below :—

For the manufacture of Crepe Faconne Georgette 3 x 13/15 denier crepe with 3,200 turns is used for warp and 3 x 13/15 denier with 3,200 turns crepe for weft using silver lametta No. 30 odds on degummed silk.

For *Mufelaise* 16/18 denier raw silk for warp and Schappe spun silk 2/200 3 ends dyed in black for weft using lace used in Laminette Gold No. 17 odds on cotton.

I learn from the Director that Crepe Faconne Georgette and Mufelaise are the latest fashions. All their looms were busy in manufacturing the above fabrics.

WORK IN PARIS.

I first met the British Consul and then the President of the French Chamber of Commerce with the letter of introduction given to me by the French Consul at Bombay. The President introduced me to his engineer Monsieur Marcodet. In this office I also met Mr. Jordon to whom I had a letter from the Director of Industries and Commerce in Mysore. Both of them suggested the textile machine manufacturers that I may visit, particularly they recommended me to meet Mr. Edmond Wenning, Engineer to Societe Alsacienne de Constructions Mecanique, Paris, who has better experience of textile machines and would be in a position to give me some idea about these machines. Unfortunately I was not able to meet Mr. Wenning as he was on tour. I met the General Secretary of the firm. He fixed up an engagement with me the next day and sent a wire to Mr. Wenning to meet me at his office at 1 P.M. I met Mr. Wenning the next day at the appointed hour. This firm is specialised in the manufacture of cotton looms and silkwaste spinning machines. As regards silk looms, Mr. Wenning advised me to see Messrs. Diederichs in Paris. For wool spinning plant he suggested that Germany would be a better place for me to obtain more information on the subject.

Mr. E. Wenning promised to prepare an estimate for a small plant but, in his opinion, silk waste spinning mills on a small scale will not pay their way. Before preparing an estimate Mr. Wenning wanted to see our waste. Unfortunately, the waste despatched from Mysore in October 1928 was received by Messrs. Mira Caremi & Co., Milan, only during the second week of January 1929. So, I could not arrange to send him samples immediately. Anyhow, I have requested Messrs. Mira Caremi & Co., to send a decent quantity of samples to this firm early and trust they would be in a position to send estimates soon.

Messrs. Ateliers Diederichs & Co., Paris.—The Director gave me all the catalogues of silk looms and promised to furnish further details on any looms selected by us.

BELGIUM.

On my way to Liege I also paid a visit to Brussels, Antwerp and halted in these places for a few hours. Mr. Mari provided me with a letter of introduction to one Mr. Joseph Notkovitsch, Engineer. I discussed with him the industrial activities of Belgium in general. As my stay in Belgium was very short he was not in a position to arrange for my visits and I learnt from him that Belgium is noted more for its coal mines, metallurgy, manufacture of railway engines, automobiles, electric goods, sugar, woollen fabrics, small home industries and suggested that I would be in a position to gather information on all these industries ~~even~~ in Germany.

GERMANY.

Berlin.—The British Consul introduced me to his assistant Consul in charge of commercial section. He took notes on the subjects on which I wanted information and promised to collect information and send it on to us from time to time. Since my stay in Berlin was too short he suggested that I should approach the German Machinery Association who would be in a better position to arrange for my visits to industrial concerns and also provided me with two letters of introduction to the Secretary, German Machinery Association, and another letter to the British Consul at Leipzig.

The German Machinery Association.—The Seretary was glad to meet me and I requested him to kindly arrange visits to some industrial concerns in Germany. This Association is an authoritative body in Germany and is in touch with all the industrial concerns including machine manufacturers. He kindly promised me to prepare a programme of work for me and wanted me to meet him again the next day by which time he would be in a position to decide what all places and industrial concerns I have to visit. The next day when I met him, there was a programme noting the details of places and industrial concerns that I have to visit in each of those places. He gave me a general letter of introduction to those concerns and another letter to the Minister of Commerce, "*Preussisches Ministerium for handel and Gewerbe*" requesting him to give me general permit to visit the industrial concerns. The Secretary was also very kind in presenting me with a very valuable book in English *VDMA* each letter of the title standing for a word which runs as *Verein Deutscher Maschinenbau Anstalten* which translated into English is "German Machinery Manufacturers' Association." This is a very valuable book giving all details about Machines manufactured in Germany including the names of the members of this association, addresses for correspondence, telegraphic addresses of the associated firms of the *VDMA*.

I obtained a general permit from the Minister of Commerce the very same day and the first factory I visited in Berlin was the Manufacturers of Machines for matches, A. Roller, Berlin. The Director took me round to his workshop, showrooms, etc. It is here that I came to know the large number of machines that are necessary for the manufacture of matches. Some of the machines I saw in this factory are noted below:—

Machines required for the manufacture of splints:—(1) Automatic crosscut saw. (2) Large and small circular saw. (3) Barking machine. (4) Wood peeling machine. (5) Splint chopping machine. (6) Splint shaping machine (7) Splint drying and polishing drum. (8) Automatic conveyors of splints. (9) Splint drying apparatus with steam heaters. (10) Small splint cleaning and polishing drum.

Machines and apparatus for paraffining and dipping the splints:—(1) New simplex. (2) Automat. (3) Frame filling machine. (4) Automatic counterpoise for frame filling machine.

Machines for the manufacture of boxes:—(1) Wood peeling machine. (2) Box veneer chopping machine. (3) Outer case pasting machine for roll. (4) New outer case pasting machine for wrapper labels. (5) Inner drawer pasting machine. (6) Combined box closing and labelling machine. (7) Box labelling machine. (8) Box drying apparatus. (9) Automatic covers for boxes, and so many other machines, too numerous to mention.

The proprietors do not sell any machines except through the association. There is a separate association to organise sales of match machines. I met the Secretary of the association and I learnt that this association has sold many machines in India. Even in Southern India I learnt they have sold many machines. This association has not supplied any machines to Shimoga match factory.

The Secretary is of opinion that in these days of keen competition it is not profitable to start the manufacture of matches on a small scale with old type machines. As far as I could see the secret of success in the match industry depends on abundant supply of light wood suitable for the manufacture of matches, efficient machines, capable of mass production to be in a position to compete with foreign matches in India.

Visit to German Technical High School.

This institute I visited is an engineering institute where students undergo training in mechanical and electrical engineering. Students willing to join this institute should have general educational qualifications and should have completed their practical training in any one of the recognised factories, mechanical or electrical engineering for two years. The course of this institute is for 2½ years. The Director took me round the institute and showed me the workshop, drawing section, etc., and he suggested that I should meet the Secretary of the Engineering Association. The Engineering Association is doing a very valuable work in the way of educating the younger generations in technical education in elementary schools by means of charts showing simple carpentry joints, manufacture of iron parts, sketches, etc., with precise instructions to teachers as to how they should teach and demonstrate to the boys. I have also purchased the following books for the use of our technical schools:—

1.	Deutscher ausschub tur technisches schulwesen.	Manufacture of simple carpentry models, etc., iron parts.
2.	Zchrgang fur schlosserlehrlaye ..	
3.	Werkstatt—lehrblatter 14 ..	Illustrated charts showing right and wrong methods of Smithy work.
4.	Nature study in 14 coloured charts.	
5.	Twelve charts with diagrams and sketches in detail of the construction of railway engines, trains, etc.	
6.	Illustrated weekly journals in simple style for the use of boys (sample copies, September and November copies.) (10 phœnix per week. 100 phœnix is equal to 1 mark. 20 marks=£1).	

Besides this the Association has specially prepared for the use of American educational institutions many useful charts. These charts are prepared in a very economical way. Each roll has four charts with cardboard casing. The Association has in all 55 rolls, each roll costing about 8 dollars. It is worth while getting some of these charts for the use of our technical schools.

VISIT TO PORCELAIN FACTORY.

Koniglich, Berlin, is a very old porcelain factory in Germany. This factory was started in the year 1763. But for the letter of introduction from German Machinery Association and general permit from the Minister of Commerce I would not have had access to this factory. They are very strict and usually do not allow visitors. The Director obtained special permission of the General Manager and took me round the factory, and explained to me in detail from Kaolin to finished product. This factory attaches more importance to old traditions, all the articles manufactured are modelled on the porcelainware used in olden days by emperors. Even the articles manufactured in this factory takes the name of either old castles or emperors. The paintings on vases, trays, cups, etc., are not prints. Talented artists are employed to paint on the articles manufactured in the factory. They are in possession of valuable ancient models of porcelainware used by the emperors. Besides many capable men are engaged in preparing models of the paintings or any models given to them and they are reproduced in large numbers. This factory gives also practical training to students deputed by the German University. The factory has an up-to-date Laboratory for research work. The General Manager of this factory is a Fellow of the German University.

I collected many useful catalogues of modern irrigation and hand pumps.

One Mr. B. L. Shah, a Gujerati gentleman of Bombay Presidency who is now settled down in Berlin doing general export and import business with India, called on me and expressed a desire to popularize our silk and to act as our agent for Mysore high grade silk in Germany on consignment basis, consignments to be placed in the hands of our bankers. He wants the consignments to be sent to Messrs. Cox and Kings & Co., Bombay. I learn from him that Germany is not importing silk from India. Germany imports silk from Italy, Japan, and China. He is willing to do business on a commission of 5 per cent on sales effected by him. In my opinion, the demand for high grade silk is increasing in India and moreover, Mr. Shah is quite new to this line. A commission of 5 per cent on sales effected by him is high, the usual commission allowed on large sales is only 2 per cent. It seems Mr. Shah also met Mr. Abdul Quddus during his recent visit to Berlin. Mr. Quddus promised to send him samples of high grade silk with quotations and gave samples to Mr. Shah. It is learnt that tests conducted did not give satisfactory results. He is eager to know our current quotations. I am sending him early samples and quotations for 13/15 and 16/18 denier reeled in Filature and Domestic Basin.

AT LEIPZIG.

Due to Christmas and New Year holidays it was not possible for me to visit any industrial concerns in Leipzig. This town is noted as the centre of German culture. The town is otherwise called the "Book centre" of Europe because the most important fairs are held in this place. Leipzig is the proud possessor of one of the most ancient and illustrious Universities in the world. This town is also admitted as pre-eminent in music. During my stay here I had to meet and discuss with the British Consul about the industries in general. He suggested that I should visit some toy factories at Nurenburg.

At Chemnitz.

I visited the following machine manufacturers and obtained necessary catalogues and other information regarding silk looms and other machines:—

1. Messsrs. Hartman & Co., Chemnitz, specialised in manufacturing silk looms, wool and silkwaste spinning machines.
2. Messrs. Haubold, A.G., Cheminitz, this firm is specialised in manufacturing stentering, stretching, drying, Calendering, handstretching, and glazing machines.
3. Messrs. Oswald Liebscher & Co., Chemnitz. The firm is specialised in the manufacture of machines for spinning rope, and flax yarn.

At Nurenberg.

My visits in this place are confined to pencil and toy factories. Messrs. J. M. Viertel & Co., "Ever sharp" pencil manufacturers showed me the various designs manufactured by them and furnished catalogues, price lists, etc. The other pencil factory was "Mars" pencil manufacturers. These are specialists in manufacturing all coloured and blacklead pencils. I learnt from the Director that this firm also supplies pencils to the Government of Mysore.

Toy Industry.

I learnt from Mr. Herbart Monk, British Vice-Consul at Chemnitz that all the toy manufacture in metal is carried on in large factories with the aid of suitable machines for cutting, printing and pressing in different colours. This kind of metal toy manufacture is mostly confined to Nurenburg whereas toys manufactured in wood, etc., is carried on in the surroundings of Nurenburg as a cottage industry. Mostly old men and women who are not fit for any other hard work are engaged in this kind of work. These people near about Nurenburg have a hereditary skill in the manufacture of toys. There is a separate organisation for this. The representatives of wholesale dealers in toys visit these villages periodically, advance money to the headman in the village and give him an idea of the toys required. He in turn distributes the work to the old men and women in the village, collects them and delivers to the representatives. They can reject toys that are not of proper finish and some encouragement is also shown for good work, by paying extra rates. Usually the toys manufactured in Germany of metal and wood are largely exported to America, Australia, India and England. I learn that in pre-war days Nurenburg was exporting more toys to India specially to Calcutta and Bombay. Just now, exporting toys to India has considerably decreased. I happened to visit Bedruckte Blechspielwaren of Nurenburg which is one of the biggest manufacturing company in Nurenburg in toys. The daily output of this Factory is about 150,000 toys per day at prices varying from 5*s* to 30*s* net for a gross.

Work in Switzerland.

Though my stay here was only for six days yet I was able to visit many silk loom manufacturers, industrial schools, etc. I had taken a letter of introduction from Mrs. Aurelia Melograni Mari, niece of Mr. Mari to Dr. H. Korrodi, Director of Messrs. A. G. Escher Wiss & Co., and his brother Mr. H. Korrodi, retired Engineer. They were very kind in introducing me to the Secretary of Development of Swiss Industries and Commere. The Secretary suggested that I should visit Uzwil, Ruti, and Horgen, where I could meet and discuss with the important silk loom and silk throwing plant manufacturers.

At Uzwil.

I paid a visit to Benningers'. This firm has specialised in the manufacture of only silk looms. This is a very old firm and the silk looms manufactured by this firm are very up-to-date. Mr. Max Ruff, the Director of this firm, was very kind to me and showed me the workshop, the warping machine, and silk looms, etc., and I learn from him that the looms manufactured by this firm are being increasingly used in England and they would be only too glad to furnish all information on any machinery selected by us. The firm spends a pretty decent amount in advertisement.

AT RUTI AND HORGEN.

Ateliers de Construction de Mecaniques, Ruti is another firm I visited. This firm also manufactures silk looms in addition to looms for wool and cotton. Schweiter at Horgen have specialised in the manufacture of silk twisting machines, and spare parts necessary for them.

I had unique opportunities of visiting many industrial concerns connected not only with silk but also with other industries in general and discussed on many points with the manufacturers concerned. As a result of my investigations, the industrial activities in Europe are in a very prosperous state. In Europe no industry suffers for want of enterprise, capital, efficient organisation or suitable machinery. Concerns worked on these principles are bound to succeed.

I give below certain lines of action for the development of sericulture in Mysore being a result of close observation and study of the methods pursued in Continental sericulture. I am of opinion that the future of sericulture is bound to have a bright prospect if scope is given for the operation of my humble proposals.

MULBERRY CULTIVATION.

The Department has to obtain sufficient data to advise people regarding the best varieties of mulberry, economical methods of cultivation, the proper kind of manure, the benefits in grafting, the advantages of the propagation of tree mulberry, etc. The only experiments conducted till now by the Department is in regard to manures. It is therefore necessary to start experiments with mulberry in all its aspects correlated with rearings to collect useful data with a view to increase leaf production and thereby the raw material, cocoons.

GRAINAGE.

The present system followed in Government Grainages also needs certain changes, not in the technique but the appliances like stands, trays, etc., which are easily liable to carry infection. The quantity of layings prepared by the Government Grainages is very small when compared to the demand. It is also highly impracticable to meet the entire demand of Disease Free Layings by the Department. Though some attention has been paid to the development of the aided grainages yet the relief to the raiyat is not obvious for the very fact that educated young men are not coming forward because it is not paying to them just now. The Department should make it attractive to these young men and show that there is money in it. It is also necessary to have selected rearers to rear worms purely for seed purposes and supply seed cocoons to these grainages. Introduction of labour saving appliances is also necessary to such grainages to enable them to increase their output at less cost.

I have devoted some care and thought over this subject and I have in view some special designs of stands and trays for grainages on hygienic principles and to be free from all contagion. In this system the use of tin rings or cellules is discarded. Only newspaper will be used for laying eggs with suitable arrangements to prevent moths being mixed up. I have also studied a simple design for a machine for crushing moths. This model could be locally prepared for about Rs. 150. It is worth while to prepare one at this cost for a trial.

Ginicrino for separating male and female cocoons in the grainages in Italy will not be of any use in Mysore. We have to devise a model of our own to suit our races or devise tests by which graineurs may approximately separate male and female cocoons.

The present system of purchasing seed cocoons is not desirable; worms require strict observation in all the stages. I have seen instances where cocoons purchased at times give very disappointing results in the way of rejections at the time of examination and cause much inconvenience to rearers who have already placed orders with the grainage for layings.

REARING.

In some of my reports I have pointed out the necessity of increasing the cocoon output by increasing the area under mulberry, the production of hybrid layings between Italian and Mysore worms and distribution of fixed races. In addition to the above the Department should attempt to take more crops in a year. Mr. Mari is now engaged in studying the possibilities of perennial silkworm rearings in hot climates and he is quite confident that his scheme will work successfully. I discussed with him on this subject. His ambition is to harvest a crop a day or 365 crops in a year. To begin with, it is too high an ambition to attempt 365 crops in a year. We can very well try to rear 36 crops and try to increase this number gradually if the results of our experiments are encourging. The salient point in the experiment is to discover whether the yield, the cost of rearing, etc., from a plot of land will be more advantageous when the number of crops are raised than the yield by the usual number of crops. In an experiment of this nature, we should take into consideration that increased number of crops in the same rearing room will make the worms more liable to disease and necessary precautions will have to be taken to see as to how best we can prevent disease. I have evolved the designs for the type of rearing stands, trays, spinning screens, etc., that are necessary to conduct these rearings. If the results are encouraging the system proposed by me will be purely a Mysore system and will not be a copy of either Italian or Japanese system.

No doubt the initial cost of constructing stands, trays, etc., will be rather expensive when compared to appliances made of bamboo. It is desirable to have substantial and hygienic rearing appliances. In the long run these appliances will be more economical than those made of cheaper material. The Japanese use bamboo stands and trays because bamboo grown in Japan is strong, smooth, and free from insect attacks. It is otherwise with Mysore Bamboo. This system of rearing does not require the use of perforated papers, nets, or husk for changing in the last stage. Constant handling of worms also is avoided. The design of the stands and trays depends on the dimensions of the rearing room for this experiment.

Using machine for chopping leaves is also an economical factor in rearing silkworms. I am in possession of a simple design for chopping machine which could be manufactured easily at a cost of about Rs. 80.

I should like to emphasise at this stage that sericultural conditions in the continent are very different to ours in many aspects. Sericulture is carried on by educated men who can appreciate the value of the methods and who are always on the look out for improvements. The contrary is prevailing in our State. It is high time we enlist educated young men in the industry. A very feasible method suggests itself to me. The Central Farms are training a number of young men each year but the percentage who take to the industry and benefit by their training is regrettably low, the few meagrely educated young men who come to these institutions are not impressed with the usefulness sufficiently of the industry due to want of a systematic, scientific and an attractive system. The training should be such that the sericultural education imparted is to enable the student to realise its usefulness and to create an interest in him by discipline, and system. Arrangements should also be made to help the beginner to start the industry. This can be done in the following way:—

Large plots of land about fifty acres each fit for mulberry and having irrigation facilities can be selected, and a few model rearing houses built thereon. A group of, say, ten students can be selected to colonise there, each student investing a small capital for cultivation and appliances. The students thereby interest themselves and apply themselves industriously. As sericulture yields an almost monthly income, the student has no need to wait for a long time for returns. It will induce other young men to take to the industry. Select plots may also be set apart for this purpose under the Irwin canal. Other facilities may also be given to suit the taste and convenience of the students such as for reeling, grainage, etc.

DISINFECTANTS.

The disinfectant (Formalin) that is in use now for rearing rooms and grainages is no doubt effective but the cost is rather prohibitive. The rearers and Grainage proprietors in Italy are now using with advantage *Lysoform Greggio* in place of formalin. In their experience it is a very good disinfectant for rearing rooms and grainages. Lysoform is also cheap and has not got the same irritating sensation like Formalin and is sold nearly 50 per cent cheaper than formalin. I met the agent of these disinfectants at Ascoli Piceno and his quotations are as follows:—

Formalin 40 per cent ..	.. 5 Liras 40 cents ex delivery at his godown.
Lysoform	.. 2 ,, 50 ,, ,,

We can very well try this for disinfection.

REELING.

I have already referred to this section of work in my report regarding work done in Italy. The reeling industry is on a factory scale, the minimum number of basins employed being not less than 48. Our activities in this branch of sericulture may be classified under the following heads:—

1. Popularisation of the Domestic Basin instead of the charka.
2. Grading of Mysore silk before export.
3. Creation of market facilities.
4. Conversion of the Government Filature, Mysore, into a commercial concern.

1. The Assistant Superintendent of Sericulture in charge of the Government Filature, Mysore, is also in charge of the Reeling section. The work in this branch has considerably increased due to the installation of several basins in various parts of the State. It is also organising a series of demonstrations in important reeling centres with a view to popularise the domestic basins. The want of sufficient executive and ministerial staff is being keenly experienced. Hence there is an urgent necessity for increasing the staff of the reeling section to increase the scope of this section.

2. The excellence of a machine does not assure the quality of production. Hence it is necessary to subject the silk reeled to tests before it is exported whereby the purchaser is assured of a proper return for value paid and the use to which he can put it. Thereby he will be tempted to pay higher rates for the silk. A Conditioning House is, therefore, an absolute necessity. The Conditioning House will also be very useful in the way of furnishing accurate statistics of high grade silk reeled in the State and Country Charka silk approximately that goes out of Mysore, if this silk also passes through the Conditioning House.

3. That the unstable Exchange in Europe influences the sale of Mysore silk and that a great demand for this product exists in India are established facts. It has been pointed out elsewhere in this report that our silk can find a favourable market in Europe on account of some of its natural qualities. The question will not be probed further here since there is a very great demand in India. Large orders for high grade silk have been and are being received but for want of sufficient quantity of a uniform quality of cocoons they could not be executed.

4. The Government Filature is now partly worked on commercial lines. I presume this concern will interest more prospective industrialists in this branch of sericulture if it is worked on commercial lines. Some of the factors now discouraging this policy are as follows:—

1. The smallness of the Filature.
2. The existing machinery at cost is fifteen times as great as that of an equal number of domestic basins. Hence such items as interest on capital, depreciation, etc., raise the cost of production abnormally.
3. Purchase of raw material is an important factor in any industrial concern. The present system of purchasing cocoons through the agents is not a satisfactory method since only second and third class cocoons mixed with inferior cocoons in large quantities are received.
4. Trained employees who are capable of giving more output are now leaving us due to the unsuitability of the Filature Building.

If the Filature is to be worked on commercial lines it is necessary to increase the basins to a suitable number (Mysore Domestic Basins). The building in which these basins are installed should be sanitary, with high roofing and good ventilation. The cocoon purchases should be made by an Officer purely engaged in this work, with headquarters at T.-Narsipur or Chamarajanagar. The cocoons purchased will have to be conditioned either at T.-Narsipur or Chamarajanagar and despatched in sealed gunny bags. This Officer should work under the orders of the Officer in charge of the Filature.

Even for twelve basins the amount spent for tap water is very prohibitive and for a larger number of basins the charges will be enormous if tap water is used. A bore-well will be handy for water supply.

The demand for high grade silk in India is on the increase and it will not be a difficult problem to market our silk if the quality is good and the cost of production is low.

SILK-WEAVING.

Side by side with the improvement of silk reeling it is also desirable to improve the silk weaving. The quality of our high grade silk is good and we can profitably convert that into a very good finished product, with the aid of suitable power looms to weave silk. Tests conducted in Italy with Mysore silk in weaving plain goods show there is a very good future for the manufacture of high class fabrics in Mysore. The leading silk merchants in Bangalore are of opinion that if silk piecegoods are manufactured to that perfection they have absolutely no fear of selling them in large quantities in India at remunerative prices. The opinion of the manufacturers in Italy is that we could manufacture out of oursilks very many patterns worn by European ladies.

OTHER INDUSTRIES.

Though my study of the minor cottage industries in Europe was not sufficiently extensive for want of time, I am of opinion that in Mysore, we have ample scope to develop the following industries :—

1. Knitting socks, children's ware, underware, etc., in small knitting machines.

2. Manufacture of wooden and metal toys may also be started. This industry is now at its height in Chennapatna. There is scope for introducing the manufacture of toys in metal.

3. In Italy, an industry which is largely in vogue is the drawing of floral and decorative borders on silk and cotton goods. This industry requires very few requisites like pencils, and a kind of solution to fix them. This would be a very good industry for people with some knowledge of drawing. I learn that there is a crude method followed locally for such work. This could be improved on the said lines.

Cottage industries started in any locality should be such that the people in the locality should be familiar with them. Above all, it is not enough only to start the industries without proper care for finish and an organisation to collect and market the goods manufactured by these people at remunerative prices.

Another industry that impressed me most is the manufacture of porcelain ware. India cannot boast of one good porcelain factory. It is necessary to send samples of kaolin available locally to Germany and have the same tested there. If the tests prove satisfactory and a good supply of kaolin is available it is advantageous to start a factory on a modest scale.

The Secretary, British Trade Commissioner in Italy, Milan, the Secretary, German Machine Manufacturers' Association, Berlin, the Secretary, the French Chamber of Commerce, Paris, and the Secretary, Swiss Office for the development of trade, have kindly promised to furnish information whenever required by us.

In conclusion, I take this opportunity to express my gratitude to the Government of Mysore for kindly giving me a second chance of study in Italy and other European countries and I would deem myself extremely fortunate if my tours contribute to the development of the premier cottage industry in Mysore.

I take this opportunity to offer my sincere thanks to the following industrial concerns and gentlemen who rendered me immense help on the Continent and India both officially and non-officially :—

Sig. Washington Mari, Ascoli Piceno, Italy.
Prof. C. Acqua, Director, Silk Research Institute, Ascoli Piceno.
Ing Pietro Enrico Cesari, Director, Polytechnique Institute, Ascoli Piceno.

Signora Aurelia Melograni Mari.
Sig. Francesco Mira of Messrs. Mira Caremi & Co., Milan.
Narman H. Platt, Pro-manager, The National Bank of New York, Milan.
Sig. Rag. Andrea Ceruzzi, Diretto Generale della Banca per il Commercio Serico e della Stagionatura Anonima, Milano.
Dr. Tartufoli Amor, Proprietario Stabilimento Bacologico Sorelle Polimanti & Co., Milan.
Dr. Carlo Pallavidino, Direttore della Societa Esercizio Oleifici, Milan.
Mr. Edward H. Capp, Commissioner, Development of British Industries in Italy, Milan.
Mr. E. W. Layard, Milan.
The Secretary, Seed Producers' Association, Milan.
Sig Giulio Chiozzotto, Societa per la Filatura dei Cascami di Seta, Milan.
Dr Guido Colombo, Direttore della R. Stagione Sperimentale per la seta, Milano.
Dr. Pigorini, Director, Silk Research Institute, Padua.
Sig. Tiberio Beretto, Stagionatura Anonima, Milan.
Sig. Guido Silvestri, Liniate Filatura, Milan.
Sig. Alberto Galbiati of Campino Filature, Bergamo.
Ing. Antonio Balduzzi, Milan.
Mr. W. N. Hatton, Messrs. Brizzolesi Kempsley and Millbourn, Milan.
Rag. Arturo Finazzi, Director, Button Manufacturing Co., Bergamo.
Sig. Cordelio Sacchi *Perito Serico*, Silk Weaving Institute, Como.
Secretaries, Silk Association, Silk Reelers' and Throwsters' Association, and Silk Weavers' Association, Italy.
President, Silk Exhibition, Turin.
Sig. Dondiua Michele, Procuratore Del Credito Italiano, Turin.
Sig. Jetto Setti Generale di Brigata, Turin.
Mr. Morel, of Messrs Chabrieres Morel & Co., Lyon.
Messrs. Charleux and Berthaud, of Messrs. Berthaud Fils, Lyon.
Mr. Paul W. Suter, Representative, German & Swiss Textile Machinery, Lyon.
Messrs. William Wiener Ing., Lyon.
Mon. Jordon, Industries and Commerce Department, Paris.
Mr. Edmond Wenning, Engineer, Textile Machine Manufacturing Co., Paris.
Mr. Joseph Notkovitsch, Ingenieur, Liege (Belgium.)
Mr. Fernand Bernard, Representations Industrielles, Liege.
Secretary, VDMA German Machinery Manufacturers' Association, Berlin.
Dr. Walter Steger, Privatdozent An Der Technischen Hocschule, Berlin.
Dipl.-Ing. C. Volk, Direktor der Beuth-Schule Privatdozent An Der Technischen Hochschule, Berlin.
Dr. Ing. Rudolf Harm, Oberingenieur, Geschaftsfuhrer des Deutschen Ausschusses fur Technisches Schulwesen, Berlin
Mr. B. L. Shah, Export and Import Merchant, Berlin.
Vertreter : Herbert Monk, Export and Import Merchant, Chemnitz.
F. C. Frohlich, C. G. Haubold A.-G., Chemnitz
Mr. G. Wissmueller, Representative of J. S. Stædtler Mars Pencil Works, Nuremburg.
Mr. J. M. Viertel, Metallwaren-U. Patentstift-Fabrik, Nuremburg.
Dr. H. Korrodi and his brothers, Zurich
Mr. Max Ruff of Benningers, Uzwil.
Directors of Textile Machine Manufacturers' at Ruti & Horgen.
The Secretary, Development of Swiss Trade, Zurich.
The British Consuls at Turin, Berlin, Lyon, Paris, Leipzig and Chemnitz.
His Majesty's Trade Commissioner, Bombay.
Director of Industries and Commerce, Bombay.
Secretary, Indian Chamber of Commerce, Bombay, and
The Italian and French Consuls in Bombay.

MYSORE,
Dated 9/12th March 1929.

V. M. APPADHORAI MUDALIAR,
Assistant Superintendent.

Enclosure 1.

OFFICE OF THE ASSISTANT SUPERINTENDENT
OF SERICULTURE IN CHARGE OF
FILATURE AND REELING.

(Camp) Turin, Dated 22nd September 1928.

DEAR SIR,

I beg to report that I reached Venice on the 14th instant, and left Venice on the 15th morning and on my way to Turin, I halted in Brescia and Milan just to visit the Filature at Orzinuovi near Brescia. The Conditioning House and the Silk Institute were one and the same and now the Conditioning House is quite independent of the Silk Institute.

In the Institute I met my old Professors Dr. Colombo and Dr. Baroni. Dr. Baroni was kind enough to take me round the Institute, the laboratory, etc. The Students trained in this Institute with a diploma always find a job in Italy.

I came here on the 19th evening and met the British Consul and the President of the Silk Exhibition with letters of introduction kindly given to me by His Majesty's Trade Commissioner and the Italian Consul at Bombay. The British Consul in turn introduced me to the Presidents of the Exhibition and the Silk Association of Italy. The President of the Silk Association is giving me all facilities and I am making the best use of his kindness. I intend meeting the President of the Silk Association shortly.

There is so much to see and study in the Exhibition besides Agriculture, Industries, Chemical section, Fine arts, Horticulture, Glass manufacture, Food materials are also very well represented.

In addition to these Courts, amusements and restaurants for the convenience of the visitors have also been arranged in convenient corners in the Exhibition grounds.

The place selected for the Exhibition is one of the important parks in Turin called " Valentine Park " is a beauty spot for Turin. This park is surrounded by ranges of mountains with a sprinkling of buildings here and there on the slope of the hills and river Po just by the side of these range of hills. Almost all structures of the Exhibition Buildings are specially constructed for the Exhibition. The materials used for these structures are nothing but straw or reeds, iron, brass, and cement structures and they will be pulled off after the Exhibition.

The textile machine manufacturing firm from Switzerland and silk manufacturers of France have also taken part in the Exhibition. The chief sections of the Exhibition are the rational methods of rearing silkworms, preparation of silkworm seeds, possibilities of raising more than four crops in a year, various breeds of Italian races of cocoons, and cross breeds with Chinese Oro, scientific appliances for separating male and female cocoons, machines to prepare perforated paper for all stages, and paper cells for isolating moths to lay eggs, machine for crushing moths, reeling, twisting, and weaving demonstrations have been arranged in the ground floor.

Finished silk goods manufactured in Como, Turin, Mialn, and Lyons have been arranged in a very attractive manner on the first floor. The Building just parallel to Silk Building is Fashion Court, where one could see finished goods of all grades manufactured in pure silk, silk with gold thread, etc., such as Crepe de Chene, Georgette, Taffeta, etc.

In the Chemical section the most interesting exhibit is the machinery and the raw material required for the manufacture of artificial silk and the finished products. Here the process of chopping and the preparation of the solution, etc., is not demonstrated.

The Superintendent of Sericulture, Mysore, wanted me to arrange for the supply of pure Italian races of silkworm eggs, mulberry seeds, and other rearing appliances. I will attend to this when I go to Ascoli Piceno. I know Prof. Acqua, the Director of the Ascoli Piceno research and experimental station, and he will be in a position to give me some pure races.

The representative of the Manufacturers of Textile machines, Messrs. Schvietor & Co., of Switzerland, had kindly promised to take me to one of the important silk mills in Turin. I intend showing them the samples of our silk and if possible I will request them to weave for us Crepe de Chene, Georgettes, Taffeta, etc., with our silk and in addition I will also try through the Italian Silk Association to weave our silk in the silk weaving Institute at Como and obtain a report from them.

As regards investigations for weighting Mysore silk I will consult the experts both in Milan and Como.

I think I will have enough work in Turin for another week and then I intend visiting important silk centres in Italy such as Bergamo, Milan, Como, Ascoli Piceno, Luino and other places if necessary. Visiting these places will keep me engaged for about a fortnight.

As regards silk waste spinning, hydrogenating oils, wool and for other small industries, some of my friends advise me to visit France, Switzerland, Belgium, and Germany and I give below for your kind perusal and approval the places I intend visiting.

In France for about ten days visiting Lyons, and Paris.

In Switzerland for about ten days visiting Zurich, Berne, and other places if necessary after going there.

In Belgium for about a week.

In Germany for about twenty days visiting Berlin, Leipzig, and Dresden.

If you kindly approve of my visit to these places, I beg to request you to kindly obtain early orders of Government and instruct me by cable.

As regards funds required for the payment of expert opinion and other expenses I will again address you after going to Como.

I give below my address and request you to kindly send all communications to this address. The Proprietor of this firm is a friend of mine and he will redirect all letters and telegrams to me.

(Sd.) V. M. Appadhorai Mudaliar,
Asst. Supdt. of Sericulture.

(Copy)

V. M. Appadhorai Mudaliar,
Asst. Supdt. of Sericulture.

Enclosure 2.

Brief Report of Work done by the Assistant Superintendent of Sericulture on Deputation to Europe (Work done in Italy).

Time spent in Italy and places visited.—My work in Italy commenced from 14th September 1928 and continued till the 29th November 1928. During this period I was able to visit some of the important silk centres such as Brescia, Orzunuovi, Milan, Turin, Ascoli Piceno, Portodi Ascoli, Florence, Bergamo, Campino, Como, Luino, Padua, Abnu, Liniate, and Chuidino besides other suburbs near Bergamo and Milan. I toured in these places mostly to study the recent progress made in the development of sericulture in Italy.

My Work in Turin.—I availed the earliest opportunity of visiting the Exhibition at Turin and I arrived here on the 19th September 1928 and stayed in this place for twelve days, spending much of the time in the Exhibition, taking notes of what all I saw and the enquiries made in the Silk Court. In addition to this, I was also paying visits to other courts in the Exhibition such as the Agricultural Court, Chemical Section, Fashion Court (for ladies), Glass Factory, Food Exhibits, Glass and Porcelain Ware, etc. In the chemical section, the machineries and other raw materials required for the manufacture of artificial silk occupied a prominent place, here I have collected more of statistical information from 1922 to 1927.

As regards other industries, I have also taken notes on point on which I thought worth while making a note and that would be eventually of some use in Mysore.

In the silk court all branches of sericulture, *i.e.*, from rearing of silkworms to finished goods were among the exhibits. The demonstration section in silk reeling, silk twisting, silk weaving, and the attractive way in which the silk goods were displayed deserves special mention. During this period, I also interviewed the British Consul, the President of the Silk Exhibition and the Secretary, Silk Association (Turin Branch) and they were very kind in giving me all help to see that I am benefited by my visit to the Exhibition. The assistants and representatives in charge of several stalls in the silk court and other industries were eager to furnish all possible information. The many bulletins, leaflets and catalogues, etc., collected would be of immense use to us for our future work. I hope to give more details of the Exhibition in my final report.

Work in other places.—After completing my work in Turin I proceeded to Milan, as Milan being the central place for all sericultural activities. I have made this as my headquarters and I was moving from time to time in visiting other places mentioned above. The object with which I visited Ascoli Piceno, Porto di Ascoli, Florence, Padua, and Abnu is mostly in connection with general sericulture, *i.e.*, to have an idea of the different systems of training mulberry trees, Chappaya system of mulberry plantations and mulberry nurseries and visiting grainages and methods adopted in rearing silkworms. Italians are now adopting various methods of rearing silkworms with a view to produce cocoons at a less cost. The rapid increase in the output of artificial silk each year, has made the sericulturists think of various ways and means to rear silkworms on most economical lines.

Even in Grainages the proprietors are now keen in introducing labour saving appliances in order to increase their output of cellular seeds. My observations go to show that the increased output of artificial silk has not in any way hampered the progress of Italian sericulture, for the very fact that the new mulberry plantations are springing up from day by day. The land owners are adding some more trees by planting them in rows in between the rows of old mulberry trees, this itself is a positive proof to show that artificial silk has not in any way disheartened the sericulturists to uproot their mulberry trees. Italians have firm belief in sericulture and they will no doubt be in a position to increase the production of cocoons on economical lines in the near future. I also visited the Government Experimental stations in Ascoli Piceno and Padua. The Director, Professor Acqua and Dr. Pigorini were kind enough to explain to me the research work in which they are now engaged. Mr. Mari has also promised to give me some new varieties of mulberry plants, seeds and pure races of Italian silkworm eggs and other rearing appliances, *i.e.*, Bombyteca, etc., for our use. Mr. Mari has also kindly agreed to test our silk in all its aspects and I have placed at his disposal a decent quantity of our raw silk for this purpose.

I visited Campino, Liniate, and Orzinovi with a view to visit old and new types of Filatures. In all I visited four filatures, two of them are of the old type (Button system). Though these types of basins are in existence for a very long time, the owners of these establishments have made their fortune in the absence of new types of basins but now they are not in a position to market their silk at prices at which the modern filatures can afford to sell; because the output in Button system is lower than "Jette Bouts" basins, but the wages paid to reelers and other operatives in all the filatures are almost the same.

The other two filatures I visited are of modern type. The filature at Liniate, the Proprietor is one Mr. Selvestri of Milan; he was kind enough to take me to the filature. This filature has two types of basins, *i.e.*, 88 basins of the "Jette Bouts" type with an addition of *Purga Bave* for cleaning silk for each basin and the other type of basins are of a recent Italian invention called "Bacapa," automatic silk reeling machine. The inventors of this type of machine are three Italians and the name *Bacapa* is a joint name of the inventors *i.e.*, the first two letters of their surnames BA CA PA.

Mr. Selvestri has 16 basins of this type with ten ends for each basin with ten independent reels. Unfortunately the basins were not at work at the time of my visit due to the damage caused to the Filature building by heavy rains and storm, and it would take some time to re-start work. For appearance the basins are no doubt complicated when compared to Jette Bouts basins. The labour required for a set of two basins or twenty ends is one cooker, one intelligent preparer and one reeler. In this system of reeling, the reelers do not sit and reel and they have to be constantly walking up and down to see to the maintenance of size, croisure, etc. No separate knotter is necessary in this system. Reeler alone attends to knotting also. If what Mr. Selvestri says is fact, the invention is really an acquisition to silk reeling industry, *i.e.*, to get an average output of 1,200 grammes of silk for a single basin of ten ends for eight hours work in 13/15 denier is really a great achievement. Mr. Selvestri kindly promised to give me photographs, etc., of this basin.

Visit to Como.—Visited Como with a letter of introduction from the Secretary, Silk Reelers' and Throwsters' Association, Milan, to the Secretary, Silk Weavers' Association, Como. The Secretary introduced me to the Director of the Silk Weaving Institute. Como is the largest silk weaving centre in Italy. The Director was kind enough to take me round to all the sections of the Institute. The Institute attracts students from all parts of Europe. Students willing to undergo training are expected to know either French or Italian language to follow the lectures and practical instructions given to them.

I also requested the Secretary to arrange for my visit to some of the private weaving establishments and he expressed his inability to comply with my request because each establishment has its professional secrets in manufacturing special kinds of fabrics and they, as a rule, do not like the idea of strangers visiting their factories. On his suggestion I paid a visit to O.M.I.T. Factory about fifteen miles from Como. This factory manufactures only silk looms and other accessories required for silk weaving. I learn from the Director of this factory that almost all the silk weaving establishments in Como, and other weaving centres in Italy use their looms. They are now popularizing their looms also in India, and they have already sold 250 looms through Messrs. Jiacomo Jucker & Co., Bombay. The Director of this factory is even prepared to have direct dealings with us for all our requirements.

Visit to Luino.—To visit Battaglia's factory. *Vide* my letters dated 22nd November 1928.

Work at Milan.—My enquiries in Milan are of a general nature. During my halts I had occasions to visit Dr. Colombo several times to consult him on important technical points, I was also frequenting the Silk Conditioning House to observe the nature of work in " Staginatura." The Manager, City Bank of New York, Milan Branch, introduced me to the Directors, Societa per la filatura dei Cascami di Seta and of Oilseed Importing Co., of Milan.

Societa per la filatura dei Cascami di Seta import very large quantities of silkwaste (Indian) through Messrs. Gorio & Co., Messrs. Volkart Bros, and other firms in Madras. I had a talk with the Director regarding our silkwaste. The following are the terms under which this firm is prepared to purchase our waste:—

(1) The firm is prepared to purchase any quantity both Filature and charka waste.

(2) On receipt of a lot of 10 to 12 kilogrammes the firm would be in a position to inform us the rate at which they are prepared to purchase.

(3) Half the quantity of the sample sent will be retained by the firm and the other half will be returned to us just for our guidance to see that our supply is according to the sample sent.

(4) Their terms of payment is at ninety days sight.

(5) Quantity and time required for the supply to be fixed by the supplier.

(6) Their quotations for our Charka waste on 8th November 1928 is 27d per kilo.

(7) The firm would be glad to inform us from time to time the quotations for silkwaste.

(8) The Director expressed his willingness to have direct dealings with us, provided we assured the firm of a steady supply, and in that case they will not purchase any waste from other firms in Madras.

(9) They want the waste to be despatched *via* Madras and not *via* Bombay and they will accept delivery either at Genoa or at Venice.

(10) As regards weight, they will accept the official weight from the port where they take delivery.

I was also paying visits to the different branches of Silk Associations just to have an idea of the organization of these Associations. I have also placed at the disposal of Messrs. Mira Caremi & Co., of Milan some samples of our silk for tests.

My Interview with the Director of the Oil-seed Importing Co., Milan.— I learn from the Director that they are importing very large quantity of oil seeds through Messrs. Volkart Bros., and Messrs Rally Bros. Their terms of contract are of the International Oil-seed Association, London. (2) This firm imports about 4,000 tons of castor seeds each year. (Italy imports nearly 120 thousand tons of groundnut each year.) (3) This firm is also interested in gingelly and they are prepared to consume any quantity provided the rates are decidedly cheaper than other oil seeds. (I learn that Italy imports for food consumption alone oil seeds about 200 thousand tons, this includes groundnut, gingelly, and rape seed, excluding soya bean that is about another 100 thousand tons a year.)

Visit to Button Factory at Chuidino.—Tabreche Riunite di Button, Chuidino near Bergamo is the biggest button factory in Italy. The Director has kindly explained to me all the processes connected with button manufacture, also presented me with a sample box showing the various stages of button manufacture. The raw material used is a kind of hard nut grown in South America and some of the Italian colonies in Italy called *Corozo*. They purchase this at a cost of 165 liras per quintal (220 lbs.). The daily output of this factory is about 1,200,000 dozens.

As regards my conclusions for the development of sericulture in Mysore, as a result of my deputation to Italy, after a careful study of the present position of the industry in general and the lines on which the Italians are now developing their industry and the main conclusions I have arrived at are as follows:—

(1) The Department has to carry on a vigorous propaganda to increase the area in mulberry (to increase our production of cocoons).

(2) Inducing the land owners in sericultural areas to take to tree mulberry. Arrangements will have to be made to have mulberry nurseries in all the Government Farms to meet the requirements of people in their respective areas. Propagation of tree mulberry side by side with bush mulberry will eventually reduce the cost of rearings.

(3) To induce educated young men to take to aided grainage work. Just now young men are not coming forward because it is not remunerative to them as the cost of production is high. The Department will have to create facilities for them to prepare layings on a large scale at less cost with the aid of more scientific appliances by which they can save time and labour such as a machine to separate male and female cocoons, for crushing moths, cheap microscopes, portable light stands and handy trays, etc. With the aid of crushing machines they will be in a position to prepare more layings. We may in the beginning lend these appliances to these aided grainages and when they know the value of it we can recover the actual cost by instalments. For increasing the output of our cocoons this is a very important step to which we have to devote more attention. It is highly impracticable to meet all the requirements of D. F. layings by the Department direct. Eventually these aided grainages should be in a position to prepare all the layings required for Mysore. When we have enough men for this work we can even think of passing a legislation to prevent the use of unexamined eggs prepared by others.

(4) No doubt our race has some exceptional qualities but comparing to the costly system of our bush mulberry cultivation the yield is not very satisfactory. I do not mean to say that we should give up the race and at the same time we should also increase the production of hybrid layings. I am not in a position to say anything in regard to the new races already fixed in Mysore, as we have not till now distributed these layings on a large scale in all the Sericultural districts to know the average yield of these for certain number of layings. It is not always safe to come to conclusions on the basis of the results obtained in small experiments and rearings conducted by few selected rearers in a particular area. In addition to this the Department should also arrange to rear some of the higher yielding varieties of Italian races during the most favourable season of the year for purposes of crossing with Mysore. The first generation gives a very

good result and these worms are very robust and is very easy for our rearers to rear these worms. This is also one of the ways to increase our production.

(5) Introduction of suitable scales for weighing cocoons and silk is a point on which we have to take early action. The present system of weighing cocoons and silk is not for the well being of the industry. The rearers and reelers are not getting their proper returns for their troubles.

(6) *Improvements in Silk Reeling.*—We are already taking steps in this direction and our progress is also slow. Our attempt should be to create now more interest for reelers to take to the use of Domestic Basins on a large scale. Just now the cost of basins are high and that prevents our reelers to take the use of these basins. We will have to attempt to manufacture these basins at a less cost to attract reelers to go in for these basins.

(7) *Marketting and Control over Production.*—If the silk reeled is of a good quality marketting is also easy. Of course, the cost of production on the Domestic basin is very much less. The reelers ought to be in a position to produce silk within the limits of ruling rates. The Department should have a proper control in regard to quality over the production of high grade silk in Mysore before it is marketted. I think a Conditioning House on a modest scale is very necessary to have a proper check over our high grade silks. In this connection I think Mr. Mari has already addressed you in regard to the quality of silk reeled by private reeling establishments. It is easy to spoil silk even with the aid of good machines. The ambition of private reelers is to increase output and thereby spoil the quality. In all the Sericultural countries the quality is being controlled by these Conditioning Houses before it is marketted and so a Conditioning House for Mysore on a modest scale will serve very useful purpose and also in grading our production, etc.

(8) The Silk Association should have branch associations for mulberry growers, rearers, reelers, throwsters, and weavers.

(9) Our silk weaving also requires more improvements in the way of introducing very efficient power looms to utilize locally the high grade silks for the manufacture of fine fabrics.

The conclusions stated on this report may not appear quite new and the same facts I have already submitted in my North India report, note for the increase of the production of hybrid layings, and a note for the organisation of an All India Silk Weaving Competition and finished silk goods (woven with Mysore silk) with a view to popularise our silk in all weaving centres in India. I think these are the main principles with which real progress can be achieved. I believe by this time the special Silk Committee must have concluded their labours and submitted a final report to Government with their suggestions as to the lines on which the work will have to be carried on for the development of sericulture in Mysore.

LIEGE, BELGIUM,
Dated 15th December 1929.

(SD.) V. M. APPADHORAI MUDALIAR,
Asst. Supdt. of Sericulture.

(COPY)
V. M. APPADHORAI MUDALIAR,
Asst. Supdt. of Sericulture.

Enclosure

ASCOLI PICENO,
Dated 3rd November 1928.

DEAR MR. APPADHORI,

I received your kind card of Milan, dated from there on the 27-11-28 and was waiting further informations in connection with the tests that are being made on raw silk reeled in the Mysore Government Filature. But up till now I received a few summary informations showing that the behaviour of Mysore Government silk was much better than that of Mysore silk reeled by private people. I wrote at once to Mr. Ranganatha Rao Saheb, pointing out the advantages coming from the adoption of rational systems in sericulture. I congratulate with you for the results already achieved in the Government Filature and I am sure that after this new visit to Europe you will be able of introducing further improvements.

I asked the Director of Industries and Commerce to give me the agency for the sale in Europe of Mysore Government raw silk and hope that he will agree with my request. So I will be put in a position as to collaborate with your Government in improving and extending sericulture in the State, and all the industries connected with it.

I transcribe here below the letter I received from Mr. Ranganatha Rao Saheb. It is a pure thanking letter.

* * * * *

In your coming again to Ascoli we shall write again to Mr. Ranganatha Rao Saheb giving him a detailed account of your deputation work and you understand that I am interested to show how in Europe, Mysore may find better opportunity than in Japan for improving its sericulture. For this reason I have prepared and translated in English the continuation of my article in the "L. Industria Bacologica." I have also prepared a model of Bombyteca for you; mulberry and silkworm seed will also be ready and a very effective plan for quickly improve and extend sericulture in Mysore will be discussed together with you. As it regards *Morus Pendula* it is better you take with you some plants because generally the different varieties of mulberry are not exactly reproduced by seed. I may procure to you some plants.

Hoping you are already put in a position as to perform your journey in France, Switzerland, Germany, Belgium. I wish you good voyage. My wife and my daughters with me convey you our hearty salutations.

Yours sincerely,

(SD.) W. MARI.

P. S. Please convey my compliments to Mr Mira.

(COPY)

V. M. APPADHORAI MUDALIAR,

Asst. Supdt. of Sericulture.

Enclosure 4.

ASCOLI PICENO

Dated 10th November 1928.

DEAR MR. APPADHORAI,

I regularly received your last letter dated 29th October, but as you wrote to me that you were waiting within two or three days for a cable authorising you to proceed to France, Switzerland, etc. I feared that a letter that I would have addressed to you in Milan would not more found you there and therefore I was waiting for your new address. Therefore will you kindly excuse me if I have not replied you before to-day.

Yesterday only I received the results of the tests made on the small skeins of raw silk that I received from Milan and I translate it below:—

Of the ten skeins sent for examination it may be said the following. I consider each group of five skeins separately because they are quite different owing to the way in which they were reeled or for the material (Cocoons) employed. For being more clear I will indicate by Group A that composed by the smallest skeins and by Group B the other one (Domestic Basin silk).

Group A.—In its general appearance the silk is straw coloured with an accentuated tendency to yellowish green to the bottom. The silk is woodly and rugged specially for the thickest deniers and of very bad appearance. It does not show any resistence to the friction of the comb of the weaving machinery. But not all the skeins of this type showed the same characters one skein was much more soft and doughy. The silk is dirty and of irregular denier. Only for winding bobbin is sufficient. In general, it does not show any appreciable characters. This judgment is summary and superficial, for want of homogeneous material for testing.

Group B.—For its appearance and colour it is similar to the former but it looks pretty well. Good shining and sufficient composition. It may be ranged in the category of the common whitish silk but having many defects in the point of reeling. The denier is rather irregular with thin portions, in the smallest deniers. The thread is vitreous and very little resistant. (This is the characteristic of the white cocoons of the East. This defect is due specially to the way of drying cocoons made often at high temperatures for accelerating stifling.) The thread is dirty but more hairy. The impurities are met particularly where the threads of cocoons are attached, as it seems also by more than one cocoon together for the thickest denier. Therefore it is a defect of reeling or of bad unfolding of the cocoons, because they are not sufficiently pressed in the *Batteuses* with the aim of having an higher output of silk by reeling even if the cocoon are insufficiently or badly purged in the basin. It is suggested when raw silk has to be produced for Europe and when the cost of reeling will permit it to produce thin deniers under 13/15 for doubling or tittles for looms but the silk must be *Redevidata* (Rereeled). My opinion is that when the raw silk is so impure cannot easily find a direct employment in looms without prejudice. The winding bobbin is good. The breakings are due almost to the thread stitched. It is opportune the employment in small doses of white serolina, the winder of nearly 140 centimetres is not used by us (we use nearly from 150 to 160 centimetres). I am enclosing herewith the bulletins of the tests made on the silk.

The big pack of silk was given for making test in weaving and hope to have the results in a short time. A letter that I wrote giving instructions for sending raw silk to Como was not received, therefore I will write again to-day. I did not write to the Director of Industries and Commerce in Mysore because I was waiting for the results of tests. I will write to Mr. Rama Rao enclosing the letter of the Director of Industries. Till now I have not received any news from Mysore, but if something will reach me I will communicate with you.

In hurry I send you the best feeling of all of us. Excuse the bad writing.

Yours Sincerely,
(SD.) W. MARI.

(COPY)
V. M. APPADHORAI MUDALIAR,
Asst. Supdt. of Sericulture.

Enclosure 5.

ASCOLI PICENO,
Dated 14th December 1928.

DEAR MR. APPADHORAI,

*　　*　　*　　*　　*

I had already asked for mulberry seed but if in time I will change with small plants. For silkworm seed all is arranged and when you will be here I may make a very useful project for improving your silk which need much improvement for being introduced in our market. If you will follow my instruction I am sure that Mysore in a few years' time may compete with Italy and even with Japan for the quantity of silk produced at a cheap cost. Lastly I received the following report about Mysore Government silk and now I am waiting for some samples of cloth weaved with it.

RAW SILK 16/18 DENIER.

The *incannaggio* of silk at a speed of 75 metres in a minute was satisfactory.

Titel (Denier).

The tests have furnished the following deniers:—

Denier legal:—14.8, 15, 16.3, 16.4, 16.4, 16.5, 16.8, 17, 17, 17.2, 17.2, 17.3, 17.3, 17.5, 17.5, 17.8, 17.8, 17.8, 17.9, 17.9, 17.9, 18.3, 18.8, 18.5, 18.6, 18.8, 19.1, 19.2, 19.3, and the average denier is 17.4.

According to the results of these tests the silk must be judged of a sufficiently regular denier (Titolo); the uses of the market *(Gli usi di piazza)* for the Raw Silk Extra classic of first and second quality for the deniers of 11/13 and 15/17 a tolerance of variation of .5 deniers.

DINAMOMETRIC TESTS.

Elasticity in milimetres.	Tenacity in Grms.	Denier of the thread tested.	Tenacity for each Denier in Grms.
225.28	64.02	17.6	3.63

It appears from these tests that the Dinamometric qualities are satisfactory.

Examination to the black table.

The silk resulted very hairy on 2,500 metres of thread it was met a total of 1,351 defects.

Loss in degumming (Decreusage).

The raw silk diminished in weight by 23.91 per cent. in weight.

TITOLO (DENIER) 20/22.

The *inconnagio* executed to the speed of 75 metres in a minute gave satisfactory results.

Denier legal.

16.6, 17, 18.8, 18.9. 19, 19.3, 19.4, 19.8, 20.7, 20.7, 20.7, 20.8, 20.8, 21.1, 21.3, 21.4. 21.5, 21.5, 21.7, 22, 22.2, 22.3, 22.5, 22.5, 22.8, 22.9, 22.9, 23.2, 23.5.

Average denier 21.05.

The silk must be judged of regular titolo the uses of the marks *(Gli usi di piazza)* admitted for raw silk of 19/21 to 24/26 denier for the above quality a tolerance of extension between extremes by 0.-.7 deniers included.

DINAMOMETRIC TESTS.

Elasticity in milimetres.	Tenacity in Grms.	Titolo of the thread tested.	Tenacity for each denier in grams.
240.24	63.82	19.88	3.69

It appears from these tests that the dinamometric qualities of the silk are satisfactory.

Examination of silk on the black table.

To this test the silk resulted enormously, on 2,500 metres of thread tested it was found a total of 1,894 defects.

Loss in degumming (Decreusage).

In this raw silk gave a loss of 24.35 per cent. in weight.

Both raw silk examined seemed to us to be of Canton type Filature silk.

* * * *

Yours Sincerely,

(SD.) W. MARI.

(COPY)

V. M. APPADHORAI MUDALIAR,

Asst. Supdt. of Sericulture.

Enclosure 6.

ASCOLI PICENO,
Dated 30th December 1928

MY DEAR MR. APPADHORAI,

I am in receipt of your postcards from Lyon and Berlin and of your letters from Paris, and I thank you for the same.

I was absent from Ascoli for a fortnight and returned only on the 26th. I was unable to write to you earlier.

I received two samples of silk cloth weaved with Mysore Government Silk. It is seen from the same some defects of Mysorean silk which must be avoided if a sale for it must be found in Europe.

If you go to see Dr. Tartufoli he will give you detailed information about the tests made with Mysore silk. I wrote to him asking the price of a good machine for crushing moths and asked also to provide mulberry plants. But if you are disposed to go to Saonara near Padua you may ~~the~~ See Gravatta Brothers who have one of the most important horticultural farms and they are specialised in mulberry culture.

Perhaps I must go out of Ascoli for a few days during the beginning of January and if you come here during my absence please wait for my return so that I may provide with silkworm seed and give you all the directions for successful rearing it in Mysore. Besides this I will give you an article about the possibilities of sericulture in hot countries with figures showing the expenses and benefits that may be had by a well organized perennial sericulture.

I beg you to convey my greeting to Mr. Mira and I wish you a happy New Year. My family with me send you kind regards and hearty salutations. *Sempre allegra* Cinzia wait you very soon. Excuse my hurry.

Your Sincerely,
(SD.) W. MARI.

(COPY)
V. M. APPADHORAI MUDALIAR,
Asst. Supt. of Sericulture.

Appendix F G—1

SUBJECT

Section Seri

File No. 1-28.

Serial No.

No. D 4216

Diary No. of letter replied to

General and Revenue Secretariat

( )

the *192*

Date of issue 19-10-29

Signed by M C Gnanamuthu

List of enclosures

Copied by

Examined by

To

The Director of Ind.

Sir,

I am directed to invite your attention to the printed report of work done by Mr V. M. A. Mudaliar, Asst. Supdt. of Seri during his deputation to Europe in 1928-29 and to state as follows:—

Page 2. System Campo Friulano: It is reported the worms this system of rearing has obvious advantages. In-

over

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Information may be furnished if the system has been tried by the Dept. of Seri. and if not whether it is not worthwhile giving it a trial.

page 3 - copies of the reports, bulletins etc of the Association at Milan obtained by Mr. A. [illegible] may be made available, if not already done, to the Mysore Silk Association for their use.

Page 4 - Demonstration Section

The device of weaving pictures out of silk yarn to which Mr A. refers is very interesting. It is further stated that the Director of the Weaving Institute at Como has offered to weave for us any picture if only a photograph of it is sent to him. Enquiry might be made as to what it would cost to get a few - say a dozen - silk cloths with the required pictures woven out of our best silk. It is also worthwhile finding out what a loom capable of this work would cost. If it is not particularly expensive and if the weaving requires high degree of skill ~~in weaving is~~ re~~quired~~, a loom of this kind might be obtained with a view to produce silk cloths with pictures and demonstrate the working of the loom.

G. R. S. App F. G. 3.

GENERAL AND REVENUE SECRETARIAT.

(*Continuation sheet draft form.*)

page 11 - Samples of Silk sent to Mr. B. L. Shah. Mr. A. Mudaliar states that the tests conducted in regard to the suitability of our silk yarn for high grade fabrics did not give satisfactory results. Enquiries may be made in what respects our yarn is defective and how the existing defects ~~should~~ could be remedied. Although there is sufficient demand for our silk in Mysore and in India and this demand will increase if the experiment of making high grade silk fabrics to replace imported fabrics succeeds, it would be well to make enquiries with a view to find out if there is any European market for your silk yarn. If there is an effective demand at paying prices, we can consider measures for expansion of this industry.

Page 13: mulberry cultivation

As soon as the period of training of the Seri. Probationers in the Agri. dept. is completed a definite programme for a systematic study of the methods of mulberry cultivation of this work (should be drawn up in consultation with the Dir. of Agri. and carried out regularly.

Grainages

Mr. A. Mudaliar refers here to improved grainage appliances. He might be asked to get samples of these appliances made and try them in some farm.

Page 14 - Rearing

Reference is made in ~~The report refers~~ to a simple machine for chopping leaves. Mr. A. Mudaliar may be asked to get one of these machines made and see how it works.

G. R. S. App F. G. 3.

GENERAL AND REVENUE SECRETARIAT.

(Continuation sheet draft form.)

Page 15 - Reeling. ~~Conditioning House~~

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Mr A. Suggests here that educated young men should be attracted to this industry by the grant of fairly large plots of land. This is a large problem and may be examined by the Dir.

The Silk Assn. may be requested to organize ~~measures~~ silk conditioning for starting a House of ~~this kind~~ very early. A copy of Mr. A. Mudaliar's report may be sent to the Secy. Silk Assn. for repl.

Mr A. States that the present method of purchase of cocoons for use by the Filature is not satisfactory and that it requires improvement on the lines indicated by him

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The suggestions of Mr A. Mudaliar may be examined and a report subd.

Information may be kindly furnished on the following points -

(i) Whether Mr A. Mudaliar has handed over the reports, Bulletins &c of the Assocn at Milan to the Mysore Silk Assocn. (Vide page 3 of his report.)

(ii) How are the 12 Thermometers presented to Mr A. are proposed to be utilised - (page 6).

(iii) Have any experiments been made with "Bombiceea" presented to Mr A by Sr. Mori (page 6) -, and if so, with what results?

(iv) ~~Have~~ whether the observations of manufacturers who have been requested to weave different kinds of cloth out of our silk yarn, in regard to the suitability of these yarns for high grade fabrics, have been recd. (page 7)

I have &c

Eng 15/10/29

For D Secy

17 Oct

18/10/29.

Seri. 1-28-18

TELEGRAPHIC ADDRESS:—"INDUSCOM."

In reply please refer to
No. D4-2643/27-28

GOVERNMENT OF MYSORE.

42

DEPARTMENT OF INDUSTRIES AND COMMERCE.

7433

28 2 30

~~OFFICE OF~~ THE DIRECTOR,
Dated, Bangalore, 27th Febry. 1930.
28

FROM

C. RANGANATHA RAO SAHIB, Esq., B.A., B.L.,
Director of Industries and Commerce in Mysore,
(Bangalore, India.)

To

N. Rama Rao, Esq., B.A., B.L.,
Secretary to the Government of Mysore,
Development Departments, Bangalore.

SIR,

With reference to your letter No. D. 4216/Seri. 1-28 dated the 19th Octr. 1929 forwarding the observations of Government on the report submitted by Mr. V. M. Appadore Mudaliar as a result of his deputation to Europe in 1928-29, I have the honor to forward herewith copy of a letter submitted by the Superintendent of Sericulture dealing with all the points raised in your letter. I note below my remarks on the points referred to in your letter dated the 19th Octr. 1929.

1. System Cavallone Fruilano - The Superintendent of Sericulture has gone into the matter fully and is of opinion that this system is unsuitable to Mysore conditions. He will however be requested to try this system of feeding with cross-breed worms.

A report may be asked to be sent after trial of the system.
Sig

The system cannot be so summarily dismissed. There is a great saving in labour

2. The reports brought by Mr. Appadore Mudaliar are in Italian and will be of no use to the Silk Association. Mr. Appadore Mudaliar has brought very good charts which have been framed for use in the Department.

3. I have addressed the Director of the Weaving Institute, Como, Italy, to kindly give me further information in regard to the device of weaving pictures out of silk yarn and shall take further action on hearing from him.

further report may be called for.
Sig

4. The sample of silk received by Mr. B. L. Shah was obviously -

reeled out of the ordinary charka. His remarks do not therefore apply to the present conditions. We have received a good deal of information from Messrs. Benninger and others on the defects of our silk and are taking suitable action to remedy them. Messrs. Benninger have stated that Mysore Silk contains a good deal of fluff which has to be cleaned in a cleaning machine if it should produce high grade cloth. They also recommend that the reeling should be improved. Every possible action is being taken in this direction.

5. A programme will be prepared for work by the Probationer as soon as his training in the Agricultural Department is completed. The Probationer is expected to return to the Department in July this year.

6. The grainage appliances referred to by Mr. Appadore Mudaliar have been made in the Chamarajendra Technical Institute.

7. A Machine for chopping leaves has also been made.

Remarks regarding the usefulness of these articles have not been furnished & may be called for.
Eng
Yes

8. I do not ~~agree~~ consider that it is of much use to induce young men to take up this industry by the grant of fairly large plots of land. The best method~~s~~ for improving the industry ~~are~~ is, in my opinion, to assist those who are actually engaged in it at present. If the economic condition~~s~~ of the persons engaged in the Industry at present is improved, we shall have taken all the action necessary for its development.

9. The Silk Association has been requested to organise measures for a Silk Conditioning House, but it will be long before such a house is established. I have taken steps to arrange for the testing of all silk manufactured in the Domestic basins in the State in our Government Filature, free of cost, for the present. The Assistant Superintendent in charge of reeling, has been instructed to give a certificate of such test. This certificate will help the owners of Domestic basins to market their silk ~~very~~ more easily.

If possible, samples selected at random from the D.B. filatures may be tested in the Govt Filature once a month or once a quarter

10. I fully agree with the views of Mr. Appadore Mudaliar that the

1414

the ~~present~~ method of purchase of cocoons referred to by him is unsatisfactory. This has been changed. An Officer has been put on special duty to study the cocoon market and arrange for the purchase of cocoons under the supervision of the Senior Officers of the Department.

Not to any great extent I am afraid. This has got to be changed & will only be changed when the reeling is so far improved that it pays the reeler to pay an extra price for good cocoons.

11. The letter of the Superintendent of Sericulture gives full information on the points raised by you under this head.

I have the honor to be,
Sir,
Your most obedient servant,

Ranganatha Rao Sahib
Director.

CRS-USC)4

45

DEPARTMENT OF SERICULTURE

MYSORE STATE

MR. H. S. GOVINDA RAO. B.A.,
Tel. Address—"SERI"

OFFICE OF THE SUPDT. OF SERICULTURE IN MYSORE,
EXHIBITION BUILDINGS.

2905
20-11-29

Mysore, 19th November 1929.

D4/2643/27-28
22.11.29

FROM

H. S. GOVINDA RAO, ESQ., B.A.,
Superintendent of Sericulture in Mysore.,
MYSORE.

TO

C.Ranganatha Rao Sahib, Esq., B.A., B.L.,
Director of Industries & Commerce in Mysore,
Bangalore.

SUBJECT AND REFERENCE—

SIR,

With reference to ~~your~~ letter No.D.4216/Seri 1/28 dated 19-10-1929 from the Development Secretary to Government to you making some observations on report of Mr.V.M.Appadorai Mudaliar, I have the honour to state as follows:-

1. System Cavallone Fruilano:- This system was tried in Japan in 1922 and was found not so satisfactory as some other systems of rearing and this system is not being widely practised in Japan. Some of the improved systems i.e., branch feeding, shoot feeding, etc., of rearing followed in Japan were tried in the Silk Farm at Channapatna some years ago with pure Mysore Worms. The result were not satisfactory as the Mysore worms did not leave the old branches when fresh branches with leaves were put on top of the old ones and a lot of worms died. This is mainly due to the fact that the Mysore worms are comparatively inactive. Branch feeding and shoot feeding will be tried with cross breed worms as soon as we have better staff in our experimental sections.

There are several disadvantages in the above systems. The floor space occupied is more. In a country where only one or two rearings are conducted in a year, all the available space in the house can be set apart for rearing purpose. But in Mysore

Mysore where five or six rearings are conducted in a year, rearing on stands which occupy very little space, is more advantageous.

Rats, Lizards, etc., will eat away the worms if they are unprotected. It is easier to protect the stands on which trays of worms are kept than to protect a whole room on the floor of which the worms will be reared. The danger from rats, lizards, ants, etc., is greater in a worm country like Mysore than in Italy or Japan.

The system of branch feeding is being adopted in Italy and Japan for only one rearing during the season when the plants have to be pruned, for the other rearings - Summer and autumn rearings in Japan - leaves are plucked and used.

2. The reports, bulletins, etc, of the Association at Milan obtained by Mr. V. M. Appadore Mudaliar are all in Italian. The Mysore Silk Association will be supplied with copies of the Reports etc., if they can make use of the same.

3. Weaving Pictures out of Silk Yarn:- A reference may kindly be sent to the weaving institutes at Como in this connection from the Director's Office as the Director of Industries & Commerce said he would take action in the matter when the point was discussed personally at Mysore.

4. Sample of Silk sent to Mr. B. L. Shah:- Mr. V. M. Appadore Mudaliar stated that the samples of Mysore Silk sent to Mr. Shah by Mr. F. M. Abdul Quddus were probably samples of silk yarn prepared in country charkas. Raw silk produced in the Government Filature has been found satisfactory for weaving high grade fabrics in Italy and Switerzerland.

Since Mr. Shah is quite new to the line, it would be better to send samples of our high grade silk to the Trade Commissioner of Mysore in London to enable him to make enquiries regarding European market for our silk. Signor W. Mari, Ascoli Piceno, Italy is also anxious to find a sale for our high grade silk and country charka silk. Samples of country charka silk have been sent to him and his opinion

opinion is awaited. If approved 2 lbs. ~~of~~ each of high grade silk of several deniers produced in the Filature will be sent to the Trade Commissioner of Mysore, London, and to Sig.W.Mari of Italy. At present the demand for high grade silk in India is very great and the Government Filature is not in a position to meet the demand. The private installations which produce high grade silk in Mysore are also finding a ready sale for the silk produced.

5. Mulberry cultivation:- Noted.

6. Grainages:- Samples of the improved appliances are being got manufactured in the Chamarajendra Technical Institute at Mysore.

7, Rearing:- Sample~~s~~ of the chopping machine is being got manufactured in Mysore.

8. Reeling:- The Silk Association has been requested to do the needful in the matter.

9. The System of purchasing reeling cocoons through agents was tried tentatively during 1928, as the Comptroller has repeatedly suggested in the Audit reports, that tender system may be adopted. The agents had to deliver the cocoons at the Filature and were being paid fixed rates on the weight of cocoon delivered at the Filature. When inferior cocoons were supplied by these people, they were being rejected.

During the current year cocoons required for the Filatur are being purchased by the Filature staff and also through the agents. During the heavy purchasing season one experienced Sericultural Inspector has been put on Special Duty to purchase cocoons for the Filature in T.Narasipur area.

9. (1) The thermometers will be supplied to all Government Farms.

(2) Bombeteca was tried in Mysore Farm. Mysore worms did not crawl up the thread. Cross breed worms also behaved in the same way. But when these worms were left inside the bombeteca, they formed well shaped and clean cocoons. But the amount of floss was more.

Japanese and Chinese pure race worms were allowed to spin in the bombeteca. They crawled up the thread and fo cocoons inside. It was observed that there were a larger number of double cocoons in bombeteca than in the Chandrikes. The experiment is being continued.

(3) The observations of the manufacturers who have been requested to weave different kinds of cloth out of our silk Yarn have not yet been received. They have been requested to furnish the information as early as possible.

I have the honour to be
Sir,
Your most obedient servant,

Superintendent.

MRV).

ky
19/11/29

Appendix F G—1

2 Copies

SUBJECT...

....

....

Section Serv

File No. 1-28.

Serial No. 19

Diary No. of letter replied to..............................

No. D10887

General and Revenue Secretariat

( )

the 192

To

The Div. I.G.

Date of issue 27/3/30

Sir,

With reference to your letter No. D. 2643-27 dated 28th February 1930 submitting your remarks on some of the points referred to in Mr. V. M. A. Mudaliar's Exploitation & protection Report, I am directed to state as follows:

System Cavellone Fruilano: The Supdt. of Sur. thinks that this system is

Signed by

List of enclosures..............................

Copied by..............................

Examined by..............................

over

WD063—GPB—20,002—1-8-29

8

unsuitable to Mysore conditions. The system cannot be so summarily dismissed as it ensures a great saving in labour. It may be tried ~~again~~ further.

Weaving of fabrics out of silk yarn: The result of your communication with the Weaving Institute, Benares, may be reported for the information of Govt.

Rearing appliances and machine for chopping leaves, referred to in Mr. Mudaliar's report: A report on the usefulness of these articles may be sent also.

Testing of silk manufactures in the O. Basis: If possible, samples selected at random from the O. B. filatures may be tested in the Govt. filature once a month or once a quarter. ~~[illegible]~~

Method of purchase of Cocoons:- Govt. consider that this method has got to be changed. They observe that it ~~will~~ can be changed only when the reeling is so improved that it pays the reeler to pay an extra price for good cocoons.

24/3

[illegible]

51

GOVERNMENT OF HIS HIGHNESS THE MAHARAJA OF MYSORE,

General and Revenue Secretariat

Dated, Bangalore, 28/3/30

No. D/o. 87
Ser. 1-28-19

From

N. RAMA RAO, Esq., B. A., B. L.,
Secretary to the Government of His Highness the Maharaja of Mysore
Development Departments.

To

C.Ranganatha Rao Sahib, Esq., B.A., B.L.,
Director of Industries and Commerce in Mysore,
Bangalore.

Sir,

With reference to your letter No.D4-2643-27 dated 28th February 1930 submitting your remarks on some of the points referred to in Mr.V.M.Appadore Modaliar's deputation report, I am directed to state as follows:-

System Cavallone Fruilano. The Superintendent of Sericulture thinks that this system is unsuitable to Mysore conditions. The system cannot be so summarily dismissed as it ensures a great saving in labour. It may be tried further.

Weaving of pictures out of silk yarn:- The result of your communication with the Weaving Institute, Como, may be reported for the information of Government.

Grainage appliances and machine for chopping leaves referred to in Mr.Appadore Mudaliar's report.

A report as to the usefulness of these articles may be submitted also.

Testing of silk manufactured in the Domestic Basins:

If possible, samples selected at random from the Domestic basin filatures may be tested in the Government Filature once a month or once a quarter.

P.T.O.

quarter.

Method of purchase of cocoons:

Government consider that this method has got to be changed. They observe that it can be changed only when the reeling is so improved that it pays the reeler to pay an extra price for good cocoons.

I have the honour to be,

Sir,

Your most obedient servant,

For Secretary to Government,

148, Development Departments.

OFFICE OF THE DIRECTOR OF INDUSTRIES & COMMERCE IN MYSORE
REG. No. R 3978/30-31
30 JUL. 1930
BANGALORE.

52

GEN. & REV. SECRETARIAT.
1331
13 AUG. 1930
DEVELOPMENT BRANCH.

G. R. S. 46]

GOVERNMENT OF HIS HIGHNESS
THE MAHARAJA OF MYSORE.

GENERAL AND REVENUE SECRETARIAT.

No. D 1252, dated the 28/7/1930

Seri 1-28-19 (,)

To

The Director of Industries
And Commerce in Mysore
Bangalore

D4 2712
Reg 29.7.30

SUBJECT.

Calling for a report on some of the points referred to in Mr. V. N. Appadhore Mudaliar's report on his deputation to Europe.

SIR,

I am directed to invite attention to the marginally noted communication and to request that the Government of His Highness the Maharaja may be informed, in the column opposite, ~~of the cause of delay in furnishing a reply and~~ of the approximate date on which reply may be expected.

*~~No.~~ 1088, dated 29-3-30
Seri 1-28-19

I am also to request that the reply to this reminder may be sent ~~not later than the~~ very early.

I have, etc.,

K. Panduranga Rao
for Secretary to Government,
Development Department.

+RRP
28/7

*Previous reminders

WD 01725—GPB—5,000—23-4-28

Br
1248 | 13/8/30

REPLY.

D4-2643/27-28
No, , dated the 8th August 1930.

To
The
Secretary to the Government of
H. H. the Maharaja of Mysore,
Development Department.

No reply has yet been received from the Director of the Weaving Institute about weaving pictures out of the Mysore silk. A report has been called for from the Superintendent of Sericulture in regard to the utility of the Grainage appliances ~~appliances~~ and the machine for chopping leaves. I shall address Government in the matter early.

C. Ranganatha Rao Sahib
Director of
Industries & Commerce.

GEN. & REV. SECRETARIAT.
16 AUG. 1930
DEVELOPMENT BRANCH.

53

GEN. & 4066 — 18 NOV.
DEVELOPMENT BRANCH.

TELEGRAPHIC ADDRESS:—"INDUSCOM."

GOVERNMENT OF MYSORE.

DEPARTMENT OF INDUSTRIES AND COMMERCE.

In reply please refer to
No. D4-2643/27-28
Encl,

OFFICE OF THE DIRECTOR,
Dated, Bangalore, Novr. *193*0.

18 NOV. 1930

FROM

C. RANGANATHA RAO SAHIB, Esq., B.A., B.L.,
Director of Industries and Commerce in Mysore,
(Bangalore, India.)

Seri 1-28-20

TO

B. Narainsamiengar, Esq., B.A., B.L.,
Secretary to the Government of Mysore,
Development Departments, Bangalore.

SIR,

0

With reference to your letter No. D. 10881/Seri. 1-88-19 dated the 29th March 1930, I have the honor to state that I - have recently received a communication from the Director of the Silk Institute, Como (Italy) in regard to Weaving Pictures out of silk. I had requested him to give me the probable weaving charges for weaving a dozen pictures from out of our silk and to let me know the price charged for the loom employed for such weaving. In reply he states that it is not possible to furnish an estimate of the cost of weaving the pictures in advance. He has not mentioned in the letter anything connected with the -- price of the loom.

Under these circumstances, I think it desirable to ask the institute to weave for us about 20 pictures of His Highness. These pictures may be woven from our silk in case the silk we send them is found suitable . Otherwise they may use their own silk. We may pay for these pictures whatever is claimed by the Institute. The charges are not likely to be excessive in view of the fact the Director states in his letter that the Institute charges only for xxxxx the actual labour employed and the -- direct costs incurred. If Government approve of these proposals I shall request the Institute to weave and send me early 20 -- pictures of His Highness. The question of obtaining a loom may

may be considered after the pictures are received and found satisfactory. The charges will be met from the budget of the Sericultural Department.

I have the honor to be,
Sir,
Your most obedient servant,
C Ranganatha Rao Sahib
Director.

USC)3

15

G.R.S. App. F VI G-2]

SUBJECT ....

Diary No. of letter replied to ....

Sec. Seri

File No: 1-28

Serial No. 21.

General and Revenue Secretariat

the ( ) 193 .

Proceedings of the Government of
His Highness the Maharaja of Mysore.

Date of issue 12 . 12 . 30

Signed by T. V. M. K. Rao

1) Report of work done by Mr. V. M. ~~A~~ Mudaliar, Asst. Supdt. of Seri. during his deputation on the Continent during 1928-29, and the reference made in it to the beautiful collection of ~~regarding the~~ ~~[illegible]~~ ~~silk [illegible]~~ ~~[illegible]~~ woven silks at the Silk Institute, Como.

Read— 2) Correspondence ending with letter no. D4 2643.27 dated 18th Nov. 1930 from the Dir. Sc stating that the Director of the Silk Institute, Como (Italy) has written to say that it is not possible to furnish in advance an

~~Order Thereon No.~~ estimate of the Cost of weaving pictures on Mysore silk, but that the charges are not likely to be excessive as the Institute charges only for actual labour employed and direct costs incurred and proposing that the

May this be
(i) Printed ?
(ii) treated as a standing order ?
(iii) published in the Gazette, English Part ?
(iv) translated ?
(v) placed at the disposal of the press ?
(vi) published in the Gazette, Kannada Part ?

Institute at Como may be asked to weave about twenty pictures of H. H. the Maharaja of Mysore on Mysore silk, if suitable, or such other silk as they may choose

Order. 6186-7/

The proposal of the Dir. is sanctioned. The cost of weaving and of silk purchased, if any, will be paid for out of the budget of the Seri. Department.

~~[illegible]~~. Br. 8/1

6/12/30 D. Secy.

To

the Dir. & the

" " Comptroller.

KG. 6-12-30.

List of enclosure

Copied by

Examined by

PROCEEDINGS OF THE GOVERNMENT OF HIS HIGHNESS THE MAHARAJA OF MYSORE

57

Extra

Read:-

Report of work done by Mr.V.H.A.Mudaliar, Appadhorai Assistant Superintendent of Sericulture during his deputation on the continent during ~~xxx~~ 1928-29, and the reference made in it to the beautiful collection of woven silks at the Silk Institute, Como.

(2) Correspondence ending with letter No.D4.2643-27 dated 18th November 1930 from the Director of Industries & Commerce stating that the Director of the Silk Institute, Como (Italy), has written to say that it is not possible to furnish in advance, an estimate of the cost of weaving pictures on Mysore Silk, but that the charges are not likely to be excessive, as the Institute charges only for actual labour employed and direct costs incurred, and proposing that the Institute at Como may be asked to weave about twenty pictures of His Highness the Maharaja of Mysore on Mysore Silk, if suitable, or such other silk as they may choose.

Order No.D.6186-7/Seri 1-28-21

Dated.Bangalore. 12 December 1930.

The proposal of the Director is sanctioned. The cost of ~~recurring~~ weaving and of silk purchased, if any, will be paid for out of the budget of the Sericultural Department.

For Secretary to Government,
Development Departments.

128

To

The Director of Industries & Commerce in Mysore.
The Comptroller to Government.

R.N.3-11/12.

58 D 7841

GEN. D.
30 MAY
DEVELOPMENT BRANCH

TELEGRAPHIC ADDRESS:—"INDUSCOM."

GOVERNMENT OF MYSORE.

DEPARTMENT OF INDUSTRIES AND COMMERCE.

In reply please refer to
No. D4-2643/27-28
Encl,

OFFICE OF THE DIRECTOR,

Dated, Bangalore, 28th May 1931.

30-5-31

FROM

C. RANGANATHA RAO SAHIB, Esq., B.A., B.L.,
Director of Industries and Commerce in Mysore,
(Bangalore, India.)

To

M. Rama Rao, Esq., B.A., B.L.,
Secretary to the Government of Mysore,
Development Departments, Bangalore.

Seri. 1-28-22

SIR,

D4066

Weaving of Pictures in Silk at Italy.

With reference to Government order No. D. 6186-7/Seri. 1-28-21 dated the 12th Decr. 1930, I have the honor to state that the - Director of the Weaving Institute, Como, was requested to despatch 20 pictures of His Highness woven in silk as he had reported that the cost would not be much, and the Institute only charged direct labour charges when silk was supplied. He has now replied that the charges would amount to 5,000 Liras or ₨ 750/-. This would mean about ₨ 37/8 per picture. I am of opinion that the price is excessive and the project may be abandoned.

I have the honor to be,
Sir,
Your most obedient servant,

Ranganatha Rao Sahib
Director.

USC)

Appendix F G—1

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SUBJECT..........

Section Seri

File No. 1-28

Serial No. 23

No. D 11271

Diary No. of letter replied to..........

General and Revenue Secretariat
( )
the *193* .

Date of issue 20/6/31

Signed by..........

To

The Dir. of I.P.

Sir,

With reference to correspondence ending with your letter no. D4-2 643-27 of 28th May 1931 regarding the meaning of picks of 16-18 on Mysore Silk, I am directed to state that the proposal may as suggested by you be dropped for the present ~~[illegible]~~.

I have &c.

17.6.31

For Secy

Ko. 17/6/31

List of enclosures..........

Copied by..........

Examined by..........

[over